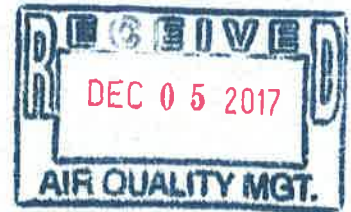




December 4, 2017



Via UPS Overnight Delivery

Ali Mirzakhilili, P.E.
DNREC Division of Air Quality
State Street Commons
100 West Water Street
Suite 6A
Dover, DE 19904

RE: Submittal of an Air Permit Application for the Installation of a Granulated Blast Furnace Slag Grinding Operation at Penn Mag, Inc. dba Walan, LLC – Specialty Construction Materials to be Located at 501 Christiana Avenue, Wilmington, DE 19801

Dear Mr. Mirzakhilili:

Compliance Plus Services, Inc. ("CPS") is pleased to submit, on behalf of our client Penn Mag, Inc. dba Walan, LLC – Specialty Construction Materials ("Penn Mag/Walan"), an air quality permit application for the installation of a 30 ton per hour granulated blast furnace slag (GBFS) grinding operation to be located at 501 Christiana Avenue, Wilmington, DE 19801.

The proposed facility will accept GBFS by truck from a ship unloading operation. The operation will be seasonal and 8-24 truck per day will transport GBFS to the facility. The GBFS received will be stockpiled and then placed in the feed hopper servicing the grinding operation. The GBFS will be conveyed to a bucket elevator and then fed to the grinder which will grind and dry the GBFS. Once processed through the grinder, the ground GBFS (GGBFS) will be conveyed via a bucket elevator to two (2) 1,100 ton silos for storage and eventual loadout into enclosed trucks. The facility is expected to process up to 150,000 tons of GBFS per year.

The GGBFS product will be top loaded into enclosed trucks through the use of dustless loadout chutes. PM emissions will be controlled by cartridge filters which are used to capture any dust displaced from the enclosed trucks. The truck loadout area under the silos will be enclosed to help prevent any fugitive dust from escaping to the atmosphere.

With regards to the Coastal Zone permit requirements, since the proposed facility will be north of Interstate 495 and out of the coastal zone area, a coastal zone permit will not be required.

The attached application includes a completed Environmental Permit Application Background Statement and completed Air Quality Management Application Forms including forms AQM-1, AQM-2, AQM-3.1, AQM-3.7, AQM-4.6, and AQM-5. In addition, the following Exhibits have been included as supplemental information to the application to aid in the review process:

- Exhibit 1 – Site Map and Aerial Photo;

- Exhibit 2 – Process Flow Diagram;
- Exhibit 3 - Property Plot Plan and Proposed Equipment Layout Diagram;
- Exhibit 4 – Equipment Information;
- Exhibit 5 – Emissions Calculations;
- Exhibit 6 – Zoning Information;
- Exhibit 7 – Sample MSDS for GBFS
- Exhibit 8 – Zoning Information.

Finally, checks for the application permit fee and the advertisement fee have also been included.

If you have any questions regarding the information provided herein, please do not hesitate to contact me at 215.734.1414 or via electronic mail at choldefe@cps-2comply.

Sincerely,



Craig R. Holdefer
Program Manager, Air Quality Permitting Services
Compliance Plus Services, Inc.

Enclosure

cc: Milind Lele, Penn Mag, Inc.
Angela Marconi, DNREC, New Castle



Air Permit Application for a Granulated Blast Furnace Slag (GBFS) Grinding Facility

Prepared For:

**Penn Mag, Inc. dba Walan, LLC –
Specialty Construction Materials**

501 Christiana Avenue
Wilmington, Delaware 19801

December 2017

Project No.: 0380.01

Prepared By:

*Compliance Plus Services, Inc.
455 Business Center Drive, Suite 250
Horsham, PA 19044
(215) 734-1414*

Application Forms

Permit Application Background Statement



DELAWARE DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL ("DNREC")

ENVIRONMENTAL PERMIT APPLICATION
BACKGROUND STATEMENT

Pursuant to 7 Del. C. Chapter 79

FILING STATUS:

This Background Statement is being filed with DNREC because:

- ☒ 1. It is an initial application for a new permit (or permits) and the applicant or applicant company has not held a permit issued by DNREC for a period of 5 or more years [See 7 Del. C. § 7902(a) and (b)];
- ☐ 2. It is required on an annual basis because the applicant or applicant company has been designated a chronic violator pursuant to 7 Del. C. § 7904 [See 7 Del. C. § 7902(a)(7) and (b)(2)]; or
- ☐ 3. It is required on an annual basis as the applicant or applicant company has been found guilty, pled guilty or no contest to any crime involving violation of environmental standards which resulted in serious physical injury or serious harm to the environment as defined in 7 Del. C. § 7902(c) [See 7 Del. C. § 7902(a)(7) and (b)(2)].

APPLICANT OR APPLICANT COMPANY'S NAME OR COMPANY'S NAME FILING STATEMENT	ANIL BHADSAVLE
DATE OF APPLICATION OR DATE OF STATEMENT	9/29/17
PERMIT(S) BEING APPLIED FOR OR STATEMENT FOR FILING STATUSES 2 OR 3	<input checked="" type="checkbox"/> Permit Type(s) AIR QUALITY PERMIT (Application to construct & operate a stationary source) <input type="checkbox"/> Statement for filing Statutes 2 or 3—If filing under these statuses, attach a statement of the date of designation as Chronic Violator or the date of Conviction/Plea.
OTHER DNREC PERMITS HELD	<input checked="" type="checkbox"/> N/A - No other permits held with DNREC <input type="checkbox"/> List of all DNREC permits currently held with dates of issuance and expiration attached.

ENVIRONMENTAL PERMIT APPLICATION BACKGROUND STATEMENT

Please note: Companies filing statements pursuant to Chapter 79 have the right to identify information to be afforded confidential status pursuant to 7 Del. C. § 7903(b) and the requirements set forth in Section 6, "Requests for Confidentiality" of the DNREC Freedom of Information Act Regulation.

PROVIDING ALL OF THE INFORMATION REQUESTED IN THIS FORM SATISFIES THE REQUIREMENTS OF 7 DEL. C. CHAPTER 79 ("ENVIRONMENTAL PERMIT APPLICATION BACKGROUND STATEMENT") UNLESS THE DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL ("DNREC") OR THE DELAWARE DEPARTMENT OF JUSTICE DETERMINES THAT ADDITIONAL SUBMISSIONS ARE NECESSARY. FAILURE TO PROVIDE THE INFORMATION REQUESTED OR PROVIDING ERRONEOUS INFORMATION IS GROUNDS FOR DENYING OR REVOKING AN ENVIRONMENTAL PERMIT/APPROVAL/LICENSE, AND FOR CIVIL AND/OR CRIMINAL PENALTIES.

A. (Authority - 7 Del. C. § 7902(n)(1&2) & § 7905) Attach a complete list (full names) of all current members of the applicant company's board of directors, all current corporate officers, all persons owning more than 20% of the applicant's stock or other resources, all subsidiary/affiliated companies with type of business performed, street addresses, all parent companies with addresses, all companies with which the applicant's company shares two or more members of the board of directors, and the name(s) of the person(s) serving as the applicant's local chief operating officer(s) with respect to each facility covered by the permit in question or for the statement required for filing Statuses 2 or 3. [Note: For companies that do not have a facility located in Delaware, no listing for the local chief operating officer(s) is required].

- ☐ Information attached
- ☒ Information attached, except for local chief operating officer as there is no facility located in the State of Delaware.

B. (Authority - 7 Del. C. § 7905) Please check one of the following selections below, showing type of ownership for the applicant or applicant/statement company:

- ☐ Proprietorship List the state, county, book record and page number where the certificate is found (Attach hereto).
- ☐ Partnership List the state, county, book record and page number where the certificate is found (Attach hereto).
- ☒ Corporation (LLCs included) List the city, state, date of incorporation, corporation file number, current corporate standing, registered agent, and address of the registered agent (Attach hereto).
- ☐ Municipality
- ☐ Public Institution/
Government Agency
- ☐ Other _____

C. (Authority - 7 Del. C. § 7902(a)(3) & § 7905) Have any of the following been issued to or agreed to by the applicant or applicant/statement company, any employee, person, entity, or subsidiary/affiliated company, specified in response to Item A, for violation of any environmental statute, regulation, permit, license, approval, or order, regardless of the state in which it occurred, during the five years prior to the date of this application/statement

OFFENSE	YES	NO
Notice of Violation(s)		✓
Administrative Order(s)		✓
Administrative Penalty(ies)		✓
Civil Action(s)		✓
Civil Penalty(ies)		✓
Civil and/or Administrative Settlement Agreement(s)		✓
Permit/License/Approval Revocation		✓
Arrest(s)		✓
Conviction(s)		✓
Criminal Penalty(ies)		✓
Criminal Plea Bargain		✓

D. (Authority - 7 Del. C. § 7902(a)(3), (a)(4) & § 7905) If you answered "yes" to any of the actions listed in Item C above for the applicant or applicant company or any other person identified in Item A, attach a description of the incidents or events leading to the issuance of each action, regardless of the state in which it occurred, for the 5 years prior to the date of the statement, and the disposition of each action, what state the action/offense occurred in, and any actions that have been taken to correct the violations that led to such enforcement action.

☒ N/A

☐ Information attached

E. (Authority - 7 Del. C. § 7902(a)(5) & § 7905) Attach a description of any felony or other criminal conviction for a crime involving harm to the environment or violation of environmental standards of any person or entity identified in Item A above that resulted in a fine greater than \$1,000 or a sentence longer than 7 days, regardless of whether such fine or sentence was suspended.

☒ N/A

☐ Description attached

F. (Authority - 7 Del. C. § 7902(a)(6) & § 7905) Attach copies of any and all settlements of environmental claims involving the applicant, associated with actions identified in response to Item D above, whether or not such settlements were based on agreements where the applicant did not admit liability for the action.

☒ N/A

☐ Information attached

Items for Filing Statuses 2 or 3 Only

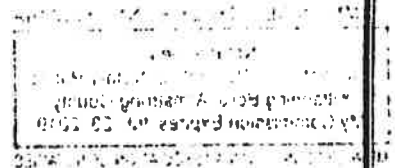
G. (Authority - 7 Del. C. § 7902(a)(7) and § 7905) If the applicant or applicant/statement company has been found guilty, pled guilty or no contest, to any crime involving violation of environmental standards which resulted in serious physical injury or serious harm to the environment attach a summary of the events involved and a copy of the disposition of the action (See 7 Del. C. § 7902(c) for definitions of "serious physical injury" or "serious harm to the environment" before answering this question.)

☒ N/A

☐ Yes - Information Attached.

H. (Authority - 7 Del. C. § 7902(a)(8)) - If the applicant or applicant/statement company has been designated a chronic violator under 7 Del. C. § 7904, a detailed written report from an independent inspector who has inspected the applicant's premises for the purpose of detecting potential safety and environmental hazards to employees and the surrounding community. The Secretary may waive the duty to submit a detailed written report upon a showing of good cause by the applicant. A showing by the applicant that the acts which caused it to be designated as a chronic violator did not jeopardize public health shall constitute "good cause" under this paragraph.

I. (Authority - 7 Del. C. § 7902(a)(7)) - If the applicant or applicant/statement company has been designated a chronic violation under § 7904 of this Title, OR has been found guilty or pled no contest to any crime involving violation of environmental standards which resulted in serious physical injury or serious harm to the environment, a statement made under oath by the applicant or applicant/statement company's local chief operating officer with respect to the facilities covered by the permit, stating that: (a) disclosures made by the applicant/reporting company under federal and state environmental statutes and regulations during the preceding calendar year have been, to the chief operating officer's knowledge, complete and accurate, and (b) that the facility has implemented policies, programs, procedures, standards or systems reasonably designated, in light of the size, scope, and nature of facility operations to detect and promptly correct any noncompliance with state environmental statutes and regulations. The statement filed pursuant to this paragraph shall include an acknowledgement by the affiant that intentionally false statements submitted in compliance with this paragraph constitute criminal perjury as defined at 11 Del. C. §§1221-1222.



STATE OF DELAWARE – DEPT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
ENVIRONMENTAL PERMIT BACKGROUND STATEMENT

CERTIFICATION

I HEREBY CERTIFY THAT I HAVE READ THE PRECEEDING SUBMISSION, HAVE PROVIDED ALL OF THE INFORMATION REQUESTED, AND THAT ALL OF THE INFORMATION PROVIDED IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.



DATE: 11/21/17

SIGNATURE—APPLICANT OR
OFFICER OF APPLICANT / STATEMENT COMPANY

NAME: ANIL G. BHADSAVLE

TITLE: PRESIDENT

COMPANY
NAME: PENN MAG INC.

ADDRESS: 719 TARTTOWN ROAD
ADRIAN, PA 16210

TELEPHONE: 724-545-2300

FAX NUMBER: 724-545-1876

REGISTERED
AGENT NAME: NA

ADDRESS: NA

TELEPHONE: NA

FAX NUMBER: NA

SWORN TO AND SUBSCRIBED

BEFORE ME THIS 21 DAY OF

November, 2017.

COMMONWEALTH OF PENNSYLVANIA

Notarial Seal
Samantha L. Wonderling, Notary Public
Kittanning Boro, Armstrong County
My Commission Expires July 23, 2019

MEMBER PENNSYLVANIA ASSOCIATION OF NOTARIES

jmb:20-24.doc/Rev. 8/2012



NOTARY PUBLIC SIGNATURE (SEAL)

Samantha L Wonderling
PRINTED NAME OF NOTARY PUBLIC

Pennsylvania Armstrong
STATE / COUNTY

MY COMMISSION EXPIRES ON: July 23 2019

October 12, 2017

Re: Penn Mag Inc. - DNREC Environmental Permit Application Background Statement, Attachment A

➤ **List of Penn Mag's Board of Directors:**

- Penn Mag Inc is owned by Anil Bhadsavle. There is no Board of Directors.

➤ **Current Corporate Officers:**

- Anil Bhadsavle – President
- Milind Lele – Vice President
- Lisa Dharwadkar – Chief Administrative Officer

➤ **Persons owning more than 20% of applicant's stock or other resources:**

- Anil and Mohini Bhadsavle own 100% of Penn Mag stock.

➤ **Companies with common ownership, street address**

- Anil Inc. – 719 Tarrtown Road Adrian, PA 16210
- GrayCo LLC – 719 Tarrtown Road Adrian, PA 16210

Background

Anil Bhadsavle has experience in successfully owning GRINDING businesses for 36 years. Specifically, he has two material grinding businesses. First, since 1982, he has owned an iron ore grinding plant servicing large clients across the globe. Secondly, since 1987, he has owned an iron chromite grinding operation. Further, he initiated and owns a cement terminal and supply chain logistics, servicing global clients like Giant Cement Corporation and Halliburton. Finally, Anil is a majority shareholder in a control business making heavy industry electronic control systems.

AQM-1
Administrative Information



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-1
Page 1 of 5

Administrative Information

One original and one copy of All Application Forms Should Be Mailed To:
Air Quality Management
100 West Water Street, Suite 6A
Dover, DE 19904

All Checks Should Be Made Payable To:
State of Delaware

<u>Company and Site Information</u>	
1.	Company Name: Penn Mag, Inc.
2.	Company Mailing Address: 719 Tarrtown Road City: Adrian State: PA Zip Code: 16210
3.	Site Name: Penn Mag, Inc. dba WALAN, LLC - Specialty Construction Materials
4.	Site Mailing Address: 501 Christiana Avenue (if different from above) City: Wilmington State: DE Zip Code: 19801
5.	Physical Location of Site: (if different from above) City: State: Zip Code:
6.	Site Billing Address: (if different from above) City: State: Zip Code:
7.	Air Quality Management Facility ID Number:
8.	Site NAICS Code: 327992 (list all that apply)
9.	Site SIC Code: 3295 (list all that apply)
10.	Site Location Coordinates: Latitude: 39 ° 43' 37" Longitude: 75 ° 32' 08"
11.	Is the Facility New or Existing? <input checked="" type="checkbox"/> NEW <input type="checkbox"/> EXISTING
<i>If the Facility is an Existing Facility, Complete the Rest of Question 11. If Not, Proceed to Question 12.</i>	
11.1.	Does the Facility Have Active Air Permits? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
12.	Is this Application For New Equipment or a Modification to Existing Equipment? <input checked="" type="checkbox"/> New Equipment <input type="checkbox"/> Modification of Existing Equipment <input type="checkbox"/> Other (Specify):
<i>If the application is for the modification of existing equipment, complete the rest of Question 12. If not, proceed to Question 13.</i>	



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-1
Page 2 of 5

Company and Site Information

12.1. Does the Equipment Have an Active Air Permit? ☐ YES ☒ NO

If the equipment has an active air permit, complete the rest of Question 12. If not, proceed to Question 13.

12.2. Permit Number of Existing Equipment:

13. Status of Equipment Being Applied For: ☒ Natural Minor Source
☐ Synthetic Minor Source
☐ Major Source
☐ Federally Enforceable Restrictions

14. Facility Status: ☒ Natural Minor Facility ☐ Synthetic Minor Facility ☐ Major Facility

If the facility is a Major Source, complete the rest of Question 14. If not, proceed to Question 15.

14.1. Responsible Official Name: **Anil Bhadsavle**

14.2. Responsible Official Title: **President**

Contact Information

15. Name of Owner or Facility Manager: **Anil Bhadsavle**

16. Title of Owner or Facility Manager: **President**

17. Permit Contact Name: **Michael D. Logan**

18. Permit Contact Title: **VP, Environmental Services**

19. Permit Contact Telephone Number: **215-734-1414**

20. Permit Contact Fax Number: **215-734-1424**

21. Permit Contact E-Mail Address: **mlogan@cps-2cmpl.com**

22. Billing Contact Name: **Milind Lele**

23. Billing Contact Title: **Vice President**

24. Billing Contact Telephone Number: **724-545-2300**

25. Billing Contact Fax Number:

26. Billing Contact E-Mail Address: **pennmag@gmail.com**

Proposed Construction and Operating Schedule

27. When Will the Proposed Construction/Installation/Modification Occur: **03/01/2018**

28. Proposed Operating Schedule: **24 hours/day 7 days/week 52 weeks/year**

28.1. Is There Any Additional Information Regarding the Operating Schedule? ☒ YES ☐ NO

If YES, complete the rest of Question 28. If NO, proceed to Question 29.



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-1
Page 3 of 5

Proposed Construction and Operating Schedule

- 28.2. Describe the Additional Information: **The proposed operating schedule is the maximum that the plant could operate on a continuous basis. The facility will actually operate sporadically throughout the year as ships arrive at the Port of Wilmington and the GBFS is unloaded and transported to the facility. The actual hours of operation will be less than 8760 per year. At a projected throughput rate of 30 tons/hour, the maximum throughput could be as high as 282,800 tons/year. The projected amount of GBFS to be processed will be approximately 150,000 tons/year. Due to the seasonal nature of the business, the number of trucks delivering material to the facility will range from approximately 8-24 per day. A maximum range of 60,000 to 65,000 tons of GBFS will be stored at the facility at any given time and will occur as GBFS is transported to and stockpiled at the facility.**

Coastal Zone Information

29. Is the Facility Located in the Coastal Zone? ☐ YES ☒ NO

If the facility is located in the Coastal Zone complete the rest of Question 29. If not, proceed to Question 30.

- 29.1. Is a Coastal Zone Permit Required for Construction or Operation of the Source Being Applied for? ☐ YES ☒ NO

Attach a copy of the Coastal Zone Determination if it has not been previously submitted

If a Coastal Zone Permit is required complete the rest of Question 29. If not, proceed to Question 30.

- 29.2. Has a Coastal Zone Permit Been Issued? ☐ YES ☒ NO

Attach a copy of the Coastal Zone Permit if it has not been previously submitted

Local Zoning Information

30. Parcel Zoning: **M2, Heavy Industrial (See Exhibit 6)**

Attach Proof of Local Zoning if it has not been previously submitted

Application Information

31. Is the Appropriate Application Fee Attached? ☒ YES ☐ NO

32. Is the Advertising Fee Attached? ☒ YES ☐ NO

For help determining your application and advertising fees see:

<http://www.dnrec.state.de.us/DNREC2000/Library/Fees/DE%20Permit%20Fees.htm>

Attach the appropriate fees. Note that your Application will not be considered complete if the appropriate fees are not included.

33. Is a Cover Letter Describing the Process Attached? ☒ YES ☐ NO

Attach a brief cover letter describing your Application.

If the Facility is a New Facility complete Question 34. If not, proceed to Question 35.

34. Is a Copy of the Applicant Background Information Questionnaire on Record at the Department? ☐ YES ☒ NO

If NO, complete the rest of Question 34. If YES, process to Question 35.



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-1
Page 4 of 5

Application Information

34.1 Is a Copy of the Applicant Background Information Questionnaire Attached? ☒ YES ☐ NO

For a copy of the Applicant Background Information Questionnaire see
<http://www.dnrec.delaware.gov/services/Documents/Chapter79Form.pdf>

Attach a copy of the Applicant Background Information Questionnaire if applicable.

35. Check Which Application Forms are Attached:

<input checked="" type="checkbox"/> AQM-1	<input type="checkbox"/> AQM-3.4	<input type="checkbox"/> AQM-3.9	<input type="checkbox"/> AQM-3.14	<input type="checkbox"/> AQM-4.4	<input type="checkbox"/> AQM-4.9	<input type="checkbox"/> AQM-6
<input checked="" type="checkbox"/> AQM-2	<input type="checkbox"/> AQM-3.5	<input type="checkbox"/> AQM-3.10	<input type="checkbox"/> AQM-3.15	<input type="checkbox"/> AQM-4.5	<input type="checkbox"/> AQM-4.10	
<input checked="" type="checkbox"/> AQM-3.1	<input type="checkbox"/> AQM-3.6	<input type="checkbox"/> AQM-3.11	<input type="checkbox"/> AQM-4.1	<input checked="" type="checkbox"/> AQM-4.6	<input type="checkbox"/> AQM-4.11	
<input type="checkbox"/> AQM-3.2	<input checked="" type="checkbox"/> AQM-3.7	<input type="checkbox"/> AQM-3.12	<input type="checkbox"/> AQM-4.2	<input type="checkbox"/> AQM-4.7	<input type="checkbox"/> AQM-4.12	
<input type="checkbox"/> AQM-3.3	<input type="checkbox"/> AQM-3.8	<input type="checkbox"/> AQM-3.13	<input type="checkbox"/> AQM-4.3	<input type="checkbox"/> AQM-4.8	<input checked="" type="checkbox"/> AQM-5	

36. Check Which Documents are Attached:

<input type="checkbox"/> Coastal Zone Determination	<input type="checkbox"/> Claim of Confidentiality
<input type="checkbox"/> Coastal Zone Permit	<input checked="" type="checkbox"/> Manufacturer Specification(s)
<input checked="" type="checkbox"/> Proof of Local Zoning	<input checked="" type="checkbox"/> Material Safety Data Sheets (MSDSs)
<input checked="" type="checkbox"/> Application Fee	<input checked="" type="checkbox"/> Supporting Calculations
<input checked="" type="checkbox"/> Advertising Fee	<input checked="" type="checkbox"/> Descriptive Cover Letter
<input checked="" type="checkbox"/> Applicant Background Information Questionnaire	<input checked="" type="checkbox"/> Other (Specify): Area map, aerial photo, site drawing, and equipment site drawing

Confidentiality Information

37. Do You Consider Any of the Information Submitted With this Application Confidential? ☐ YES ☒ NO

For help on how to submit a confidentiality claim see
<http://regulations.delaware.gov/register/december2011/final/15%20DE%20Reg%20864%2012-01-11.htm>

If a Claim of Confidentiality is made it MUST meet the requirements of Section 6 of DNREC's Freedom of Information ("FOIA") Regulation at the time the Application is submitted.

Signature Block

I, the undersigned, hereby certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all of its attachments as to the truth, accuracy, and completeness of this information. I certify based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete. By signing this form, I certify that I have not changed, altered, or deleted any portions of this application. I acknowledge that I cannot commence construction, alteration, modification or initiate operation until I receive written approval (i.e. permit, registration, or exemption letter) from the Department. I acknowledge that I may be required to perform testing of the equipment to receive construction or operation approval, and that if I do not receive approval to construct or operate that I may appeal the decision.


Owner or Operator

12/04/17
Date



**DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources**

Form AQM-1
Page 5 of 5

Signature Block

Anil Bhadsavle
Signature of Owner or Operator

One Original and One Copy of All Application Forms Should Be Mailed To:
**Division of Air Quality
Blue Hen Corporate Center
655 S. Bay Road, Suite 5 N
Dover, Delaware 19901**

All Checks Should Be Made Payable To:
State of Delaware

AQM-2
Process Flow Diagram



**DNREC – Air Quality Management Section
Application to Construct, Operate, or Modify
Stationary Sources**

Form AQM-2
Page 1 of 1

Process Flow Diagram

Sketch the Process Flow Diagram for the equipment or process being applied for. Include each emission unit and control device (even existing emission units that will not be modified by this application). You may identify each emission unit with a simple shape. Label each emission unit and control device with a unique identifier. Show the relationship between each emission unit and/or control device by drawing arrows between them to indicate the flow of air pollutants. List which application forms are included for each emission unit or control device below the shape representing each emission unit or control device. See <http://www.delaware.gov/reg2/default.htm> for example Process Flow Diagrams for common processes. If you already have a Process Flow Diagram for the equipment or process being applied for, you may attach it to the application instead of using this form.

See Exhibit 2

AQM-3.1
GBFS Drying and Grinding



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-3.1
Page 1 of 6

Generic Process Equipment Application

If you are using this form electronically, press F1 at any time for help

General Information

1. Facility Name: **WALAN, LLC - Specialty Construction Materials**
2. Equipment ID Number: **GBFS Handling, Grinding and Storage**
3. Provide a brief description of Equipment or Process: **GBFS is received from the Port of Wilmington by truck, stockpiled, fed by front-end loader, via a hopper, to the "Ready2Grind" grinding/drying equipment. Upon grinding the fine particles, captured by a baghouse, are fed by bucket elevator to two-1,100 ton storage silos equipped with bin vents. The ground GBFS is loaded into enclosed trucks through dustless loadout chutes controlled by cartridge filters.**
4. Manufacturer: **See equipment information in Exhibit 4**
5. Model:
6. Serial Number:

Raw Material Information

7. Raw Materials Used in Process

If there are more than four Raw Materials used, attach additional copies of this page as needed.

<u>Raw Material Used</u>	<u>CAS Number</u>	<u>Usage Rate (include units)</u>	<u>MSDS Attached?</u>
7.1. Granulated blast furnace slag (GBFS)	N/A	30 tons/hour	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
7.2.			<input type="checkbox"/> YES <input type="checkbox"/> NO
7.3.			<input type="checkbox"/> YES <input type="checkbox"/> NO
7.4.			<input type="checkbox"/> YES <input type="checkbox"/> NO

Attach a copy of all calculations made to support the data in the table above.
Attach a Material Safety Data Sheet (MSDS) for each Raw Material used.

Products Produced Information

8. Products Produced

If there are more than four Products Produced, attach additional copies of this page as needed.

<u>Product Produced</u>	<u>CAS Number</u>	<u>Production Rate (include units)</u>	<u>MSDS Attached?</u>
8.1. Ground GBFS (GGBFS)	N/A	30 tons/hour	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
8.2.			<input type="checkbox"/> YES <input type="checkbox"/> NO
8.3.			<input type="checkbox"/> YES <input type="checkbox"/> NO
8.4.			<input type="checkbox"/> YES <input type="checkbox"/> NO



DNREC – Division of Air Quality
Application to Construct, Operate, or Modify
Stationary Sources

Form AQM-3.1
Page 2 of 6

Products Produced Information

Attach a copy of all calculations made to support the data in the table above.
Attach a Material Safety Data Sheet (MSDS) for each Product Produced.

Byproducts Generated Information

9. Byproducts Generated

If there are more than four Byproducts Generated, attach additional copies of this page as needed.

	<u>Byproduct Generated</u>	<u>CAS Number</u>	<u>Generation Rate</u> (include units)	<u>MSDS Attached?</u>
9.1.				<input type="checkbox"/> YES <input type="checkbox"/> NO
9.2.				<input type="checkbox"/> YES <input type="checkbox"/> NO
9.3.				<input type="checkbox"/> YES <input type="checkbox"/> NO
9.4.				<input type="checkbox"/> YES <input type="checkbox"/> NO

Attach a copy of all calculations made to support the data in the table above.
Attach a Material Safety Data Sheet (MSDS) for each Byproduct Generated.

General Information

10. Manufacturer's Rated Capacity or Maximum Throughput of Equipment or Process: **30 tons/hour**

11. Describe Important Manufacturer Specifications and/or Operating Parameters for Equipment or Process: **The "Ready2Grind" system, consists of one (1) feed hopper, two (2) bucket elevators, one (1) mill used to dry and grind the GBFS, one (1) baghouse used for air pollution control and product recovery. The heater on the mill has a natural gas firing rate of 7,240 ft³/hour. The ground GBFS from the system is conveyed via a bucket elevator to two product silos controlled by bin vents where it is then loaded into enclosed trucks for shipment through dustless loadout chutes controlled by cartridge filters.**

Attach the Manufacturer's Specification Sheet(s) for the equipment or process.

Control Device Information

12. Is an Air Pollution Control Device Used? ☒ YES ☐ NO

If an Air Pollution Control Device is used, complete the rest of Question 12. If not, proceed to Question 13.

12.1. Is Knockout Used? ☐ YES ☒ NO

If YES, complete Form AQM-4.11 and attach it to this application.

12.2. Is a Settling Chamber Used? ☐ YES ☒ NO

If YES, complete Form AQM-4.10 and attach it to this application.

12.3. Is an Inertial or Cyclone Collector Used? ☐ YES ☒ NO

If YES, complete Form AQM-4.5 and attach it to this application.

12.4. Is a Fabric Collector or Baghouse Used? ☒ YES ☐ NO

If YES, complete Form AQM-4.6 and attach it to this application.



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Control Device Information

12.5. Is a Venturi Scrubber Used? ☐ YES ☒ NO

If YES, complete Form AQM-4.8 and attach it to this application.

12.6. Is an Electrostatic Precipitator Used? ☐ YES ☒ NO

If YES, complete Form AQM-4.7 and attach it to this application.

12.7. Is Adsorption Equipment Used? ☐ YES ☒ NO

If YES, complete Form AQM-4.2 and attach it to this application.

12.8. Is a Scrubber Used? ☐ YES ☒ NO

If YES, complete Form AQM-4.4 and attach it to this application.

12.9. Is a Thermal Oxidizer or Afterburner Used? ☐ YES ☒ NO

If YES, complete Form AQM-4.1 and attach it to this application.

12.10. Is a Flare Used? ☐ YES ☒ NO

If YES, complete Form AQM-4.3 and attach it to this application.

12.11. Is Any Other Control Device Used? ☐ YES ☒ NO

If YES, attach a copy of the control device Manufacturer's Specification Sheet(s).

If any other control device is used, complete the rest of Question 12. If not, proceed to Question 13.

12.12. Describe Control Device:

12.13. Pollutants Controlled: ☐ VOCs ☐ HAPs ☐ PM ☐ PM₁₀ ☐ PM_{2.5} ☐ NO_x ☐ SO_x ☐ Metals
☐ Other (Specify):

12.14. Control Device Manufacturer:

12.15. Control Device Model:

12.16. Control Device Serial Number:

12.17. Control Device Design Capacity:

12.18. Control Device Removal or Destruction Efficiency:

Stack Information

13. How Does the Process Equipment Vent:

(check all that apply)

☐ Directly to the Atmosphere

☒ Through a Control Device Covered by Forms AQM-4.1 through 4.12

☐ Through Another Control Device Described on This Form

If any of the process equipment vents directly to the atmosphere or through another control device described on this form, proceed to Question 14. If the process equipment vents through a control device, provide the stack parameters on the control device form and proceed to Question 18.

14. Number of Air Contaminant Emission Points: **Five**

If there are more than three Emission Points, attach additional copies of this page as needed.

For the first Emission Point

15. Emission Point Name: **One (1) "Ready2Grind" Baghouse**



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Form AQM-3.1
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Stack Information

15.1. Stack Height Above Grade: **83 feet**

15.2. Stack Exit Diameter: **3 feet**

(Provide Stack Dimensions If Rectangular Stack)

15.3. Is a Stack Cap Present? ☐ YES ☒ NO

15.4. Stack Configuration: ☒ Vertical ☐ Horizontal ☐ Downward-Venting
(check all that apply) ☐ Other (Specify):

15.5. Stack Exit Gas Temperature: **207 °F**

15.6. Stack Exit Gas Flow Rate: **17813 ACFM**

15.7. Distance to Nearest Property Line: **to the RR tracks - about 125 feet**

15.8. Describe Nearest Obstruction: **Large 150' x 675' building to the west**

15.9. Height of Nearest Obstruction: **about 50 feet**

15.10. Distance to Nearest Obstruction: **about 235 feet**

15.11. Are Stack Sampling Ports Provided? ☐ YES ☒ NO

For the second Emission Point. If there is no second Emission Point, proceed to Question 18.

16. Emission Point Name: **Two (2) Silo Bin vents with cartridge filters**

16.1. Stack Height Above Grade: **85 feet**

16.2. Stack Exit Diameter: **1.02 feet**

(Provide Stack Dimensions If Rectangular Stack)

16.3. Is a Stack Cap Present? ☐ YES ☒ NO

16.4. Stack Configuration: ☐ Vertical ☒ Horizontal ☐ Downward-Venting
(check all that apply) ☐ Other (Specify):

16.5. Stack Exit Gas Temperature: **Ambient °F**

16.6. Stack Exit Gas Flow Rate: **4000 ACFM**

16.7. Distance to Nearest Property Line: **about 50 feet**

16.8. Describe Nearest Obstruction: **Large 150' x 675' building to the west**

16.9. Height of Nearest Obstruction: **about 50 feet**

16.10. Distance to Nearest Obstruction: **about 325 feet**

16.11. Are Stack Sampling Ports Provided? ☐ YES ☒ NO

For the third Emission Point. If there is no third Emission Point, proceed to Question 18.

17. Emission Point Name: **Two (2) GGBFS Loadout chutes - dustless loadout with cartridge filters**

17.1. Stack Height Above Grade: **about 22 feet**

17.2. Stack Exit Diameter: **0.667 feet**

(Provide Stack Dimensions If Rectangular Stack)

17.3. Is a Stack Cap Present? ☐ YES ☒ NO

17.4. Stack Configuration: ☒ Vertical ☐ Horizontal ☐ Downward-Venting
(check all that apply) ☐ Other (Specify):

17.5. Stack Exit Gas Temperature: **ambient °F**

17.6. Stack Exit Gas Flow Rate: **1400 ACFM**



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Stack Information

- 17.7. Distance to Nearest Property Line: **about 50 feet feet**
- 17.8. Describe Nearest Obstruction: **Large 150' x 675' building to the west**
- 17.9. Height of Nearest Obstruction: **about 50 feet**
- 17.10. Distance to Nearest Obstruction: **about 325 feet**
- 17.11. Are Stack Sampling Ports Provided? ☐ YES ☒ NO

Monitoring Information

18. Will Emissions Data be Recorded by a Continuous Emission Monitoring System? ☐ YES ☒ NO
- If Yes, attach a copy of the Continuous Emission Monitoring System Manufacturer's Specification Sheets
- If YES, complete the rest of Question 18. If NO, proceed to Question 19.
- 18.1. Pollutants Monitored: ☐ VOCs ☐ HAPs ☐ PM ☐ PM₁₀ ☐ PM_{2.5} ☐ NO_x ☐ SO_x ☐ Metals
☐ Other (Specify):
- 18.2. Describe the Continuous Emission Monitoring System:
- 18.3. Manufacturer:
- 18.4. Model:
- 18.5. Serial Number:
- 18.6. Will Multiple Emission Units Be Monitored at the Same Point? ☐ YES ☐ NO
- If YES, complete the rest of Question 18. If NO, proceed to Question 19.
- 18.7. Emission Units Monitored:
- 18.8. Will More Than One Emission Unit be Emitting From the Combined Point At Any Time? ☐ YES ☐ NO
- If YES, complete the rest of Question 18. If NO, proceed to Question 19.
- 18.9. Emission Units Emitting Simultaneously:

Voluntary Emission Limitation Request Information

19. Are You Requesting Any Voluntary Emission Limitations to Avoid Major Source Status, Minor New Source Review, MACT, NSPS, etc.? ☐ YES ☒ NO
- If YES, complete the rest of Question 19. If NO, proceed to Question 20.
- 19.1. Describe Any Requested Emission Limitations:

Voluntary Operating Limitation Request Information



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Voluntary Operating Limitation Request Information

20. Are You Requesting Any Voluntary Operating Limitations to Avoid Major Source Status, Minor New Source Review, MACT, NSPS, etc.? ☐ YES ☒ NO

If YES, complete the rest of Question 20. If NO, proceed to Question 21.

- 20.1. Describe Any Requested Operating Limitations:

Additional Information

21. Is There Any Additional Information Pertinent to this Application? ☒ YES ☐ NO

If YES, complete the rest of Question 21.

- 21.1. Describe: **About 80-85% of the exhaust gases passing through the grinder/dryer are recirculated**

AQM-3.7
Storage Silos



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Form AQM-3.7
Page 1 of 5

Silo Application

If you are using this form electronically, press F1 at any time for help

General Information

1. Facility Name: **WALAN, LLC - Specialty Construction Materials**

2. Equipment ID Number: **Two (2) 1,100 Ton Storage Silos**

3. Manufacturer: **Concrete Plants, Inc.**

4. Model:

5. Serial Number:

6. Silo Type: ☒ Tower Silo
☐ Bunker Silo
☐ Other (Specify):

7. Number of Compartments in Silo: **One**

8. Material Stored in Silo:

If there are more than three Materials Stored in the Silo, attach additional copies of this page as needed

<u>Material</u>	<u>Material Density</u>	<u>Compartment Stored In</u>
8.1. Ground granulated blast furnace slag (GGBFS)	175 pounds/cubic foot	
8.2.	tons/cubic foot	
8.3.	tons/cubic foot	

Attach a Material Safety Data Sheet (MSDS) for each Material Stored in the Silo.

9. Silo Storage Capacity: **1,100 tons**

10. Silo Loading Method: ☐ Pneumatic ☐ Vacuum
☐ Hydraulic ☐ Other (Specify):
☒ Mechanical

11. Maximum Rate of Silo Loading: **30 (projected) / 70 (max) tons/hour**

12. Is the Silo Equipped With a Pressure-Vacuum Relief Valve? ☐ YES ☐ NO

If YES, complete the rest of Question 12. If NO, proceed to Question 13.

12.1. Describe the Pressure Relief Valve Settings:

13. Is the Silo Equipped With a System That Prevents Overfilling? ☒ YES ☐ NO

If YES, complete the rest of Question 13. If NO, proceed to Question 14.

13.1. Describe the Overfilling Prevention System: **Level indicator used**



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General Information

14. Is the Silo Equipped With a Silo Level Monitoring System? ☒ YES ☐ NO

If YES, complete the rest of Question 14. If NO, proceed to Question 15.

14.1. Type of Level Indicator: ☐ Point
☒ Continuous
☐ Other (Specify):

15. Is the Silo Equipped With a Power/Control Panel with a High Level Indicator? ☐ YES ☐ NO

Control Device Information

16. Is an Air Pollution Control Device Used? ☒ YES ☐ NO

If an Air Pollution Control Device is used, complete the rest of Question 16. If not, proceed to Question 17.

16.1. Is Knockout Used? ☐ YES ☐ NO

If YES, complete Form AQM-4.11 and attach it to this application.

16.2. Is a Settling Chamber Used? ☐ YES ☐ NO

If YES, complete Form AQM-4.10 and attach it to this application.

16.3. Is an Inertial or Cyclone Collector Used? ☐ YES ☐ NO

If YES, complete Form AQM-4.5 and attach it to this application.

16.4. Is a Fabric Collector or Baghouse Used? ☒ YES ☐ NO

If YES, complete Form AQM-4.6 and attach it to this application.

16.5. Is a Venturi Scrubber Used? ☐ YES ☐ NO

If YES, complete Form AQM-4.8 and attach it to this application.

16.6. Is an Electrostatic Precipitator Used? ☐ YES ☐ NO

If YES, complete Form AQM-4.7 and attach it to this application.

16.7. Is Any Other Control Device Used? ☐ YES ☐ NO

If YES, attach a copy of the Control Device Manufacturer's Specification Sheets.

If Any Other Control Device is used, complete the rest of Question 16. If not, proceed to Question 17.

16.8. Describe Control Device:

16.9. Pollutants Controlled: ☐ HAPs ☐ PM ☐ PM₁₀ ☐ PM_{2.5} ☐ Metals ☐ Other (Specify):

16.10. Control Device Manufacturer:

16.11. Control Device Model:

16.12. Control Device Serial Number:

16.13. Control Device Design Capacity:

16.14. Control Device Removal or Destruction Efficiency:



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Stack Information

17. How Does the Process Equipment Vent:

(check all that apply)

- ☐ Directly to the Atmosphere
☒ Through a Control Device Covered by Forms AQM-4.1 through 4.12
☐ Through Another Control Device Described on This Form

If any of the process equipment vents directly to the atmosphere or through another control device described on this form, proceed to Question 18. If the process equipment vents through a control device, provide the stack parameters on the control device form (AQM-4 Series) and proceed to Question 19.

18. Emission Point Name: **Two (2) Silo Baghouses**

18.1. Stack Height Above Grade: **85 feet**

18.2. Stack Exit Diameter: **1.02 feet**

(Provide Stack Dimensions If Rectangular Stack)

18.3. Is a Stack Cap Present? ☐ YES ☒ NO

18.4. Stack Configuration: ☐ Vertical ☒ Horizontal ☐ Downward-Venting
(check all that apply) ☐ Other (Specify):

18.5. Stack Exit Gas Temperature: **ambient °F**

18.6. Stack Exit Gas Flow Rate: **4000 ACFM**

18.7. Distance to Nearest Property Line: **about 50 feet**

18.8. Describe Nearest Obstruction: **Large 150' x 675' building to the west**

18.9. Height of Nearest Obstruction: **about 50 feet**

18.10. Distance to Nearest Obstruction: **about 325 feet**

18.11. Are Stack Sampling Ports Provided? ☐ YES ☒ NO

Monitoring Information

19. Will Emissions Data be Recorded by a Continuous Emission Monitoring System? ☐ YES ☒ NO

If Yes, attach a copy of the Continuous Emission Monitoring System Manufacturer's Specification Sheets

If YES, complete the rest of Question 19. If NO, proceed to Question 20.

19.1. Pollutants Monitored: ☐ VOCs ☐ HAPs ☐ PM ☐ PM₁₀ ☐ PM_{2.5} ☐ NO_x ☐ SO_x ☐ Metals
☐ Other (Specify):

19.2. Describe the Continuous Emission Monitoring System:

19.3. Manufacturer:

19.4. Model:

19.5. Serial Number:

19.6. Will Multiple Emission Units Be Monitored at the Same Point? ☐ YES ☐ NO

If YES, complete the rest of Question 19. If NO, proceed to Question 20.

19.7. Emission Units Monitored:



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Monitoring Information

19.8. Will More Than One Emission Unit be Emitting From the Combined Point At Any Time? ☐ YES ☐ NO

If YES, complete the rest of Question 19. If NO, proceed to Question 20.

19.9. Emission Units Emitting Simultaneously:

Visible Emissions Monitoring Information

20. Proposed Technique Used to Monitor Visible Emissions: ☐ Opacity Monitor (COM)
☐ Manual (Method 9)
☐ Manual (Method 22)
☒ Other (Describe): **Daily observation to determine presence or absence of visible emissions**

If an Opacity Monitor (COM) is used, complete the rest of Question 20. If not, proceed to Question 21.

20.1. Describe the Continuous Opacity Monitoring System:

20.2. Manufacturer:

20.3. Model:

20.4. Serial Number:

21. Proposed Frequency of Opacity Monitoring:

Monitoring and Alarm Information

22. Are There Any Alarms You Would Like the Department to Consider When Drafting the Permit? ☐ YES ☒ NO

If YES, complete the rest of Question 22. If NO, proceed to Question 23.

22.1. Describe the System Alarm(s):

If there are more than five alarms, attach additional copies of this page as needed.

	Operating Parameter Monitored	Describe Alarm Trigger	Monitoring Device or Alarm Type	Does the Alarm Initiate an Automated Response?
22.1.1.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
22.1.2.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
22.1.3.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:



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Monitoring and Alarm Information

22.1.4.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
22.1.5.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:

Voluntary Emission Limitation Request Information

23. Are You Requesting Any Voluntary Emission Limitations to Avoid Major Source Status, Minor New Source Review, MACT, NSPS, etc.? ☐ YES ☒ NO

If YES, complete the rest of Question 23. If NO, proceed to Question 24.

23.1. Describe Any Proposed Emission Limitations:

Voluntary Operating Limitation Request Information

24. Are You Requesting Any Voluntary Operating Limitations to Avoid Major Source Status, Minor New Source Review, MACT, NSPS, etc.? ☐ YES ☒ NO

If YES, complete the rest of Question 24. If NO, proceed to Question 25.

24.1. Describe Any Proposed Operating Limitations:

Additional Information

25. Is There Any Additional Information Pertinent to this Application? ☒ YES ☐ NO

If YES, complete the rest of Question 25.

25.1. Describe: **Enclosed bucket elevator carrying GGBFS will be used to fill silos**

AQM-4.6
Baghouse - Grinding/Drying



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Form AQM-4.6
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Baghouse Application

If you are using this form electronically, press F1 at any time for help

General Information

1. Facility Name: **WALAN, LLC- Specialty Construction Materials**

2. Equipment ID Number: **Grinding Mill with Integral /Heater**

3. Manufacturer: **Redecam**

4. Model: **2 DPZ 60x10/7-W**

5. Serial Number:

6. Is the Baghouse Insulated? ☒ YES ☐ NO

7. Design Minimum Operating Temperature: °F

8. Design Maximum Operating Temperature: **257 °F**

9. Are Temperature Controls Provided? ☐ YES ☒ NO

If Yes, complete the rest of Question 9. If no, proceed to Question 10.

9.1. Describe the Temperature Controls:

10. Air Flow Through Baghouse: ☐ Forced
☒ Induced
☐ Other (Specify):

11. Direction of Flow Through Filters: ☐ Inside Out
☒ Outside In

12. Particulate Removal Efficiency: **99.9+ %**

Attach the Manufacturer's Specification Sheet for the Baghouse and Particle Size Removal Efficiency Curve and basis of determination.

Compartment Information

13. Number of Compartments: **Two**

14. Number of Filters (Bags) Per Compartment: **600**

15. Can the Compartments be Isolated for Replacement or Repair? ☐ YES ☒ NO

Gas Stream Information

16. Maximum Inlet Volumetric Gas Flow Rate: **design value with 80-85% recirculated - 136,550 acfm at 70 °F**

17. Maximum Outlet Volumetric Gas Flow Rate: **stack exhaust gas - 17,870 acfm at 207 °F**

18. Dew Point at Maximum Moisture Content of Gas: °F



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Gas Stream Information

19. pH of Gas Handled:

20. Dust Characteristics: ☐ Sticky
(Check All That Apply) ☐ Wet
☐ Corrosive
☒ Dry
☐ Other (Specify):

Contaminant Information

21. Percent of Each Contaminant in the Waste Gas and Removal Efficiency

If more than five Contaminants are present, attach additional copies of this page as needed.

<u>Contaminant Name</u>	<u>Contaminant CAS Number</u>	<u>Percent of Waste Gas</u>	<u>Removal Efficiency</u>
21.1. GGBFS		100 %	%
21.2.		%	%
21.3.		%	%
21.4.		%	%
21.5.		%	%

Fabric Filter (Bag) Information

22. Fabric Type: ☐ Felted ☐ Membrane ☐ Ceramic Cartridge
☒ Woven ☐ PTFE Membrane ☐ Other (Specify):
☐ Felted-Woven ☐ Sintered Metal

23. Fabric Material: **Polyester/Acrylic**

24. Maximum Continuous Filter Operating Temperature: **257 °F**

25. Clean Fabric Permeability: **scfm/ft² at ΔP** **inches of water**

26. Fabric Filter (Bag) Diameter or Width: **5 inches**

27. Fabric Filter (Bag) Length: **23 feet**

28. Effective Area Per Filter: **30 square feet**

29. Minimum Effective Air to Cloth Ratio: **feet/min**

30. Maximum Effective Air to Cloth Ratio: **Projected = 1.04 feet/min**

31. Design Pressure Drop Across Baghouse: **6.02 inches water**

32. Describe Determining Factor Fabric Filter Changing/Replacement: **Vendor recommendations are followed. Also, an effective baghouse maintenance plan is used in company's other facilities operating in PA. (1) Baghouse, filters, and cages are inspected every three months by plant foreman for the first 6 months; (2) After 6 months, baghouse including filters and cages are inspected monthly; and (3) Bags and cages are changed when required following inspection (typically 8-12 months).**

Attach the Manufacturer's Specification Sheet for the Fabric Filters (Bags).



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Stationary Sources

Form AQM-4.6
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Filter Cleaning Information

33. Filter Cleaning Method: ☐ Manual Cleaning ☐ Bag Collapse ☐ Reverse Air Jet
☐ Mechanical Shakers ☐ Sonic Cleaning ☒ Pulse Jet
☐ Pneumatic Shakers ☐ Reverse Air Flow ☐ Other (Specify):

If Reverse Air Jet or Pulse Jet is used, complete the rest of Question 33. If not, proceed to Question 34.

33.1. Air Pressure: **80 psi**

33.2. Describe How Air Is Supplied to System:

34. Describe How Filter Cleaning Is Initiated: ☐ Manual ☒ Pressure Drop
☐ Timer ☐ Other (Specify):

Hopper Information

35. Is the Hopper Heated? ☐ YES ☒ NO
36. Is there a Hopper Vibrator? ☐ YES ☒ NO
37. Describe How Collected Material is Treated or Disposed of: **Collected material is considered product and is fed via a bucket elevator to the two (2) 1,100 ton product storage silos**

Stack Information

38. Emission Point Name: **EP3**
38.1. Stack Height Above Grade: **85 feet**
38.2. Stack Exit Diameter: **3 feet**
(Provide Stack Dimensions If Rectangular Stack)
38.3. Is a Stack Cap Present? ☐ YES ☒ NO
38.4. Stack Configuration: ☒ Vertical ☐ Horizontal ☐ Downward-Venting
(check all that apply) ☐ Other (Specify):
38.5. Stack Exit Gas Temperature: **207 °F**
38.6. Stack Exit Gas Flow Rate: **17870 ACFM**
38.7. Distance to Nearest Property Line: **about 125 feet**
38.8. Describe Nearest Obstruction: **Large 150' x 675' building to the west**
38.9. Height of Nearest Obstruction: **about 50 feet**
38.10. Distance to Nearest Obstruction: **about 265 feet**



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Stack Information

38.11. Are Stack Sampling Ports Provided? ☐ YES ☒ NO

Monitoring and Alarm Information

39. Are There Any Alarms You Would Like the Department to Consider When Drafting the Permit? ☐ YES ☒ NO

If YES, complete the rest of Question 39. If NO, proceed to Question 40.

39.1. Describe the System Alarm(s):

If there are more than five alarms, attach additional copies of this page as needed.

	Operating Parameter Monitored	Describe Alarm Trigger	Monitoring Device or Alarm Type	Does the Alarm Initiate an Automated Response?
39.1.1.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.2.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.3.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.4.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.5.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:

Additional Information

40. Is There Any Additional Information Pertinent to this Application? ☐ YES ☒ NO

If YES, complete the rest of Question 40.

40.1. Describe:

AQM-4.6
Baghouses (Bin Vents) - Storage Silos



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Baghouse Application

If you are using this form electronically, press F1 at any time for help

General Information

1. Facility Name: **WALAN, LLC - Specialty Construction Materials**

2. Equipment ID Number: **Bin Vents on Two Storage Silos**

3. Manufacturer: **C&W Manufacturing and Sales Company**

4. Model: **CP-4000S**

5. Serial Number:

6. Is the Baghouse Insulated? ☐ YES ☒ NO

7. Design Minimum Operating Temperature: **ambient °F**

8. Design Maximum Operating Temperature: **ambient °F**

9. Are Temperature Controls Provided? ☐ YES ☒ NO

If Yes, complete the rest of Question 9. If no, proceed to Question 10.

9.1. Describe the Temperature Controls:

10. Air Flow Through Baghouse: ☐ Forced
☒ Induced
☐ Other (Specify):

11. Direction of Flow Through Filters: ☐ Inside Out
☒ Outside In

12. Particulate Removal Efficiency: **99.9+ %**

Attach the Manufacturer's Specification Sheet for the Baghouse and Particle Size Removal Efficiency Curve and basis of determination.

Compartment Information

13. Number of Compartments: **1**

14. Number of Filters (Bags) Per Compartment: **12 cartridge filters**

15. Can the Compartments be Isolated for Replacement or Repair? ☐ YES ☒ NO

Gas Stream Information

16. Maximum Inlet Volumetric Gas Flow Rate: **4000 acfm at ambient °F**

17. Maximum Outlet Volumetric Gas Flow Rate: **4000 acfm at ambient °F**

18. Dew Point at Maximum Moisture Content of Gas: **°F**



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Gas Stream Information

19. pH of Gas Handled:
20. Dust Characteristics: ☐ Sticky
 (Check All That Apply) ☐ Wet
☐ Corrosive
☒ Dry
☐ Other (Specify):

Contaminant Information

21. Percent of Each Contaminant in the Waste Gas and Removal Efficiency

If more than five Contaminants are present, attach additional copies of this page as needed.

<u>Contaminant Name</u>	<u>Contaminant CAS Number</u>	<u>Percent of Waste Gas</u>	<u>Removal Efficiency</u>
21.1. GGBFS		100 %	%
21.2.		%	%
21.3.		%	%
21.4.		%	%
21.5.		%	%

Fabric Filter (Bag) Information

22. Fabric Type: ☐ Felted ☐ Membrane ☐ Ceramic Cartridge
☐ Woven ☐ PTFE Membrane ☒ Other (Specify): "spunbond"
☐ Felted-Woven ☐ Sintered Metal
23. Fabric Material: **Polyester (Innovative Filtration Technology - FM0105)**
24. Maximum Continuous Filter Operating Temperature: **265 °F**
25. Clean Fabric Permeability: **18-26 scfm/ft² at ΔP 0.5 inches of water**
26. Fabric Filter (Bag) Diameter or Width: **8 inches**
27. Fabric Filter (Bag) Length: **39 inches**
28. Effective Area Per Filter: **52.5 square inches**
29. Minimum Effective Air to Cloth Ratio: **6.35 feet/min**
30. Maximum Effective Air to Cloth Ratio: **6.35 feet/min**
31. Design Pressure Drop Across Baghouse: **6.0 inches water**
32. Describe Determining Factor Fabric Filter Changing/Replacement: **Follow manufacturers recommendations**

Attach the Manufacturer's Specification Sheet for the Fabric Filters (Bags).



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Filter Cleaning Information

33. Filter Cleaning Method: ☐ Manual Cleaning ☐ Bag Collapse ☐ Reverse Air Jet
☐ Mechanical Shakers ☐ Sonic Cleaning ☒ Pulse Jet
☐ Pneumatic Shakers ☐ Reverse Air Flow ☐ Other (Specify):

If Reverse Air Jet or Pulse Jet is used, complete the rest of Question 33. If not, proceed to Question 34.

33.1. Air Pressure: **psi**

33.2. Describe How Air Is Supplied to System:

34. Describe How Filter Cleaning Is Initiated: ☐ Manual ☐ Pressure Drop
☒ Timer ☐ Other (Specify):

Hopper Information

35. Is the Hopper Heated? ☐ YES ☒ NO

36. Is there a Hopper Vibrator? ☐ YES ☒ NO

37. Describe How Collected Material is Treated or Disposed of: **Recycled as product back into two storage silos**

Stack Information

38. Emission Point Name: **EP4**

38.1. Stack Height Above Grade: **approx. 85 feet**

38.2. Stack Exit Diameter: **1.02 feet**
(Provide Stack Dimensions If Rectangular Stack)

38.3. Is a Stack Cap Present? ☐ YES ☒ NO

38.4. Stack Configuration: ☐ Vertical ☒ Horizontal ☐ Downward-Venting
(check all that apply) ☐ Other (Specify):

38.5. Stack Exit Gas Temperature: **ambient °F**

38.6. Stack Exit Gas Flow Rate: **4000 ACFM**

38.7. Distance to Nearest Property Line: **about 50 feet**

38.8. Describe Nearest Obstruction: **Large 150'x 675' building to the west**

38.9. Height of Nearest Obstruction: **about 50 feet**

38.10. Distance to Nearest Obstruction: **about 325 feet**



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Stack Information

38.11. Are Stack Sampling Ports Provided? ☐ YES ☒ NO

Monitoring and Alarm Information

39. Are There Any Alarms You Would Like the Department to Consider When Drafting the Permit? ☐ YES ☒ NO

If YES, complete the rest of Question 39. If NO, proceed to Question 40.

39.1. Describe the System Alarm(s):

If there are more than five alarms, attach additional copies of this page as needed.

	Operating Parameter Monitored	Describe Alarm Trigger	Monitoring Device or Alarm Type	Does the Alarm Initiate an Automated Response?
39.1.1.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.2.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.3.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.4.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.5.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:

Additional Information

40. Is There Any Additional Information Pertinent to this Application? ☐ YES ☒ NO

If YES, complete the rest of Question 40.

40.1. Describe:

AQM-4.6
Cartridge Filters - Dustless Loadout Chutes
for Truck Loading



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Baghouse Application

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General Information

1. Facility Name: **WALAN, LLC - Specialty Construction Materials**
2. Equipment ID Number: **Cartridge Filters for Two Dustless Loadout Chutes**
3. Manufacturer: **DCL, Inc.**
4. Model: **Compact Filter Module (CFM) - Model CFM330**
5. Serial Number:
6. Is the Baghouse Insulated? ☐ YES ☒ NO
7. Design Minimum Operating Temperature: **ambient °F**
8. Design Maximum Operating Temperature: **ambient °F**
9. Are Temperature Controls Provided? ☐ YES ☒ NO

If Yes, complete the rest of Question 9. If no, proceed to Question 10.

9.1. Describe the Temperature Controls:

10. Air Flow Through Baghouse: ☐ Forced
☒ Induced
☐ Other (Specify):
11. Direction of Flow Through Filters: ☐ Inside Out
☒ Outside In

12. Particulate Removal Efficiency: **99.9+ %**

Attach the Manufacturer's Specification Sheet for the Baghouse and Particle Size Removal Efficiency Curve and basis of determination.

Compartment Information

13. Number of Compartments: **1**
14. Number of Filters (Bags) Per Compartment: **Seven (model TL-DCL) cartridge filters**
15. Can the Compartments be Isolated for Replacement or Repair? ☐ YES ☒ NO

Gas Stream Information

16. Maximum Inlet Volumetric Gas Flow Rate: **1400 acfm at ambient °F**
17. Maximum Outlet Volumetric Gas Flow Rate: **1400 acfm at ambient °F**
18. Dew Point at Maximum Moisture Content of Gas: **°F**



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Gas Stream Information

19. pH of Gas Handled:
20. Dust Characteristics: ☐ Sticky
(Check All That Apply) ☐ Wet
☐ Corrosive
☒ Dry
☐ Other (Specify):

Contaminant Information

21. Percent of Each Contaminant in the Waste Gas and Removal Efficiency

If more than five Contaminants are present, attach additional copies of this page as needed.

<u>Contaminant Name</u>	<u>Contaminant CAS Number</u>	<u>Percent of Waste Gas</u>	<u>Removal Efficiency</u>
21.1. GGBFS		100 %	%
21.2.		%	%
21.3.		%	%
21.4.		%	%
21.5.		%	%

Fabric Filter (Bag) Information

22. Fabric Type: ☐ Felted ☐ Membrane ☐ Ceramic Cartridge
☐ Woven ☐ PTFE Membrane ☒ Other (Specify): ""spunbond" polyester
☐ Felted-Woven ☐ Sintered Metal
23. Fabric Material: **Polyester**
24. Maximum Continuous Filter Operating Temperature: **180 °F**
25. Clean Fabric Permeability: **15-30 scfm/ft² at ΔP 0.5 inches of water**
26. Fabric Filter (Bag) Diameter or Width: **8 inches**
27. Fabric Filter (Bag) Length: **22 inches**
28. Effective Area Per Filter: **47 square feet**
29. Minimum Effective Air to Cloth Ratio: **4.3:1 feet/min**
30. Maximum Effective Air to Cloth Ratio: **4.3:1 feet/min**
31. Design Pressure Drop Across Baghouse: **inches water**
32. Describe Determining Factor Fabric Filter Changing/Replacement: **Follow manufacturers recommendations**

Attach the Manufacturer's Specification Sheet for the Fabric Filters (Bags).



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Filter Cleaning Information

33. Filter Cleaning Method: ☐ Manual Cleaning ☐ Bag Collapse ☐ Reverse Air Jet
☐ Mechanical Shakers ☐ Sonic Cleaning ☒ Pulse Jet
☐ Pneumatic Shakers ☐ Reverse Air Flow ☐ Other (Specify):

If Reverse Air Jet or Pulse Jet is used, complete the rest of Question 33. If not, proceed to Question 34.

33.1. Air Pressure: **80-100 psi**

33.2. Describe How Air Is Supplied to System:

34. Describe How Filter Cleaning Is Initiated: ☐ Manual ☐ Pressure Drop
☒ Timer ☐ Other (Specify):

Hopper Information

35. Is the Hopper Heated? ☐ YES ☒ NO

36. Is there a Hopper Vibrator? ☐ YES ☒ NO

37. Describe How Collected Material is Treated or Disposed of: **Recycled into loadout chute as product**

Stack Information

38. Emission Point Name: **EP5**

38.1. Stack Height Above Grade: **22 feet**

38.2. Stack Exit Diameter: **feet**
(Provide Stack Dimensions If Rectangular Stack)

38.3. Is a Stack Cap Present? ☐ YES ☒ NO

38.4. Stack Configuration: ☐ Vertical ☒ Horizontal ☐ Downward-Venting
(check all that apply) ☐ Other (Specify):

38.5. Stack Exit Gas Temperature: **ambient °F**

38.6. Stack Exit Gas Flow Rate: **1400 ACFM**

38.7. Distance to Nearest Property Line: **about 50 feet**

38.8. Describe Nearest Obstruction: **Large 150' x 675' building to the west**

38.9. Height of Nearest Obstruction: **about 50 feet**

38.10. Distance to Nearest Obstruction: **about 325 feet**



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Stack Information

38.11. Are Stack Sampling Ports Provided? ☐ YES ☒ NO

Monitoring and Alarm Information

39. Are There Any Alarms You Would Like the Department to Consider When Drafting the Permit? ☐ YES ☒ NO

If YES, complete the rest of Question 39. If NO, proceed to Question 40.

39.1. Describe the System Alarm(s):

If there are more than five alarms, attach additional copies of this page as needed.

	Operating Parameter Monitored	Describe Alarm Trigger	Monitoring Device or Alarm Type	Does the Alarm Initiate an Automated Response?
39.1.1.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.2.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.3.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.4.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:
39.1.5.			<input type="checkbox"/> Visual <input type="checkbox"/> Auditory <input type="checkbox"/> Automatic (Remote Monitoring) <input type="checkbox"/> Other	<input type="checkbox"/> NO <input type="checkbox"/> YES Describe:

Additional Information

40. Is There Any Additional Information Pertinent to this Application? ☐ YES ☒ NO

If YES, complete the rest of Question 40.

40.1. Describe:

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Emissions Information



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Emissions Information Application

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Process Information

1. Number of Individual Pieces of Process Equipment in Process: **Six: Feed hopper, two bucket elevators, grinder/dryer, two silos**
2. Number of Individual Control Devices in Process: **Five dust collectors: grinding, two silos, two dustless loadouts**

Emissions Information for First Emission Point/Stack

3. Emission Point Name: **EP1 & EP2 - GBFS Handling**
4. Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack:
5. Pollutant Emissions

If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.

Pollutant Name (Specify VOCs and HAPs Individually in 5.10 through 5.18)	CAS Number (Not required for 5.1 through 5.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
5.1. Particulate Matter (PM)		0.047 lbs/hour	0.047 lbs/hour	0.207 tons/year	0.118 tons/year
5.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year
5.3. PM _{2.5}		lbs/hour	lbs/hour	tons/year	tons/year
5.4. Sulfur Oxides (SO _x)		lbs/hour	lbs/hour	tons/year	tons/year
5.5. Nitrogen Oxides (NO _x)		lbs/hour	lbs/hour	tons/year	tons/year
5.6. Carbon Monoxide (CO)		lbs/hour	lbs/hour	tons/year	tons/year
5.7. Total Volatile Organic Compounds (VOCs)		lbs/hour	lbs/hour	tons/year	tons/year
5.8. Total Hazardous Air Pollutants (HAPs)		lbs/hour	lbs/hour	tons/year	tons/year



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Emissions Information for First Emission Point/Stack

5.9.	CO ₂	lbs/hour	lbs/hour	tons/year	tons/year
5.10.	CO _{2e}	lbs/hour	lbs/hour	tons/year	tons/year
5.11.		lbs/hour	lbs/hour	tons/year	tons/year
5.12.		lbs/hour	lbs/hour	tons/year	tons/year
5.13.		lbs/hour	lbs/hour	tons/year	tons/year
5.14.		lbs/hour	lbs/hour	tons/year	tons/year
5.15.		lbs/hour	lbs/hour	tons/year	tons/year

6. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:

Attach the Basis of Determination or Calculations for each Emission Rate provided above.

Emissions Information for Second Emission Point/Stack

- Emission Point Name: **EP3 - GBFS Drying**
- Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack: **2**
- Pollutant Emissions

If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.

Pollutant Name (Specify VOCs and HAPs Individually in 9.10 through 9.18)	CAS Number (Not required for 9.1 through 9.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
9.1. Particulate Matter (PM)		lbs/hour	lbs/hour	tons/year	tons/year
9.2. PM ₁₀		lbs/hour	lbs/hour	tons/year	tons/year
9.3. PM _{2.5}		0.055 lbs/hour	0.0003 lbs/hour	0.0007 tons/year	0.0012 tons/year



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Emissions Information for Second Emission Point/Stack

9.4.	Sulfur Oxides (SO _x)	0.0043 lbs/hour	0.0043 lbs/hour	0.0190 tons/year	0.0109 tons/year
9.5.	Nitrogen Oxides (NO _x)	0.7240 lbs/hour	0.7240 lbs/hour	3.1711 tons/year	1.81 tons/year
9.6.	Carbon Monoxide (CO)	0.6082 lbs/hour	0.6082 lbs/hour	2.6637 tons/year	1.5204 tons/year
9.7.	Total Volatile Organic Compounds (VOCs)	0.0398 lbs/hour	0.0398 lbs/hour	0.1744 tons/year	0.0996 tons/year
9.8.	Total Hazardous Air Pollutants (HAPs)	lbs/hour	lbs/hour	tons/year	tons/year
9.9.	CO ₂	lbs/hour	lbs/hour	tons/year	tons/year
9.10.	CO _{2e}	lbs/hour	lbs/hour	tons/year	tons/year
9.11.		lbs/hour	lbs/hour	tons/year	tons/year
9.12.		lbs/hour	lbs/hour	tons/year	tons/year
9.13.		lbs/hour	lbs/hour	tons/year	tons/year
9.14.		lbs/hour	lbs/hour	tons/year	tons/year
9.15.		lbs/hour	lbs/hour	tons/year	tons/year
10.	Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:				

Attach the Basis of Determination or Calculations for each Emission Rate provided above.

Emissions Information for Third Emission Point/Stack

11.	Emission Point Name: EP3 - GBFS Grinding
12.	Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack: 2
13.	Pollutant Emissions



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Emissions Information for Third Emission Point/Stack

If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.

Pollutant Name (Specify VOCs and HAPs Individually in 13.10 through 13.18)	CAS Number (Not required for 13.1 through 13.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
13.1. Particulate Matter (PM)		242.4 lbs/hour	1.212 lbs/hour	5.309 tons/year	3.03 tons/year
13.2. PM ₁₀		203.4 lbs/hour	1.017 lbs/hour	4.454 tons/year	2.543 tons/year
13.3. PM _{2.5}		72.6 lbs/hour	0.363 lbs/hour	1.590 tons/year	0.908 tons/year
13.4. Sulfur Oxides (SO _x)		lbs/hour	lbs/hour	tons/year	tons/year
13.5. Nitrogen Oxides (NO _x)		lbs/hour	lbs/hour	tons/year	tons/year
13.6. Carbon Monoxide (CO)		lbs/hour	lbs/hour	tons/year	tons/year
13.7. Total Volatile Organic Compounds (VOCs)		lbs/hour	lbs/hour	tons/year	tons/year
13.8. Total Hazardous Air Pollutants (HAPs)		lbs/hour	lbs/hour	tons/year	tons/year
13.9. CO ₂		lbs/hour	lbs/hour	tons/year	tons/year
13.10. CO _{2e}		lbs/hour	lbs/hour	tons/year	tons/year
13.11.		lbs/hour	lbs/hour	tons/year	tons/year
13.12.		lbs/hour	lbs/hour	tons/year	tons/year
13.13.		lbs/hour	lbs/hour	tons/year	tons/year
13.14.		lbs/hour	lbs/hour	tons/year	tons/year
13.15.		lbs/hour	lbs/hour	tons/year	tons/year
14. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:					



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Emissions Information for Third Emission Point/Stack

Attach the Basis of Determination or Calculations for each Emission Rate provided above.

Emissions Information for Fourth Emission Point/Stack

15. Emission Point Name: **EP4 & EP5 - GGBFS Storage and Loadout**
16. Equipment ID Number for all Process Equipment and Control Devices Venting Through Emission Point/Stack:
17. Pollutant Emissions

If more than 15 pollutants are emitted at this Emission Point/Stack, attach additional copies of this page as needed.

Pollutant Name (Specify VOCs and HAPs Individually in 17.10 through 17.18)	CAS Number (Not required for 17.1 through 17.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
17.1. Particulate Matter (PM)		43.8 lbs/hour	0.059 lbs/hour	0.26 tons/year	0.149 tons/year
17.2. PM ₁₀		28.2 lbs/hour	0.02 lbs/hour	0.089 tons/year	0.051 tons/year
17.3. PM _{2.5}		lbs/hour	lbs/hour	tons/year	tons/year
17.4. Sulfur Oxides (SO _x)		lbs/hour	lbs/hour	tons/year	tons/year
17.5. Nitrogen Oxides (NO _x)		lbs/hour	lbs/hour	tons/year	tons/year
17.6. Carbon Monoxide (CO)		lbs/hour	lbs/hour	tons/year	tons/year
17.7. Volatile Organic Compounds (VOCs)		lbs/hour	lbs/hour	tons/year	tons/year
17.8. Total Hazardous Air Pollutants (HAPs)		lbs/hour	lbs/hour	tons/year	tons/year
17.9. CO ₂		lbs/hour	lbs/hour	tons/year	tons/year
17.10. CO _{2e}		lbs/hour	lbs/hour	tons/year	tons/year
17.11.		lbs/hour	lbs/hour	tons/year	tons/year
17.12.		lbs/hour	lbs/hour	tons/year	tons/year



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Emissions Information for Fourth Emission Point/Stack

17.13.	lbs/hour	lbs/hour	tons/year	tons/year
17.14.	lbs/hour	lbs/hour	tons/year	tons/year
17.15.	lbs/hour	lbs/hour	tons/year	tons/year

18. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:

Attach the Basis of Determination or Calculations for each Emission Rate provided above.

If there are more than four Emission Points/Stacks, attach additional copies of this form as needed.

Overall Process Emissions

19. Pollutant Emissions

If more than 15 pollutants are emitted from this Process, attach additional copies of this page as needed.

Pollutant Name (Specify VOCs and HAPs Individually in 19.10 through 19.18)	CAS Number (Not required for 19.1 through 19.10)	Maximum Uncontrolled Emission Rate at Design Capacity	Maximum Controlled Emission Rate at Design Capacity	Annual Potential to Emit (PTE)	Requested Permitted Annual Emissions
19.1. Particulate Matter (PM)		286.247 lbs/hour	1.319 lbs/hour	5.776 tons/year	3.297 tons/year
19.2. PM ₁₀		231.6 lbs/hour	1.037 lbs/hour	4.544 tons/year	2.594 tons/year
19.3. PM _{2.5}		72.655 lbs/hour	0.363 lbs/hour	1.591 tons/year	0.909 tons/year
19.4. Sulfur Oxides (SO _x)		0.004 lbs/hour	0.004 lbs/hour	0.019 tons/year	0.011 tons/year
19.5. Nitrogen Oxides (NO _x)		0.724 lbs/hour	0.724 lbs/hour	3.171 tons/year	1.81 tons/year
19.6. Carbon Monoxide (CO)		0.608 lbs/hour	0.608 lbs/hour	2.664 tons/year	1.52 tons/year
19.7. Total Volatile Organic Compounds (VOCs)		0.04 lbs/hour	0.04 lbs/hour	0.174 tons/year	0.100 tons/year
19.8. Total Hazardous Air Pollutants (HAPs)		lbs/hour	lbs/hour	tons/year	tons/year



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Overall Process Emissions

	lbs/hour	lbs/hour	tons/year	tons/year
19.9. CO ₂				
19.10. CO _{2e}	lbs/hour	lbs/hour	tons/year	tons/year
19.12.	lbs/hour	lbs/hour	tons/year	tons/year
19.13.	lbs/hour	lbs/hour	tons/year	tons/year
19.14.	lbs/hour	lbs/hour	tons/year	tons/year
19.15.	lbs/hour	lbs/hour	tons/year	tons/year

20. Provide Any Additional Information Necessary to Understanding the Emission Rates Provided Above:

Attach the Basis of Determination or Calculations for each Emission Rate provided above.

Minor New Source Review Information

21. Does the Process Have the Potential to Emit More Than Five Tons Per Year of Any Pollutant? ☐ YES ☒ NO
22. Is the Source New or Existing? ☒ NEW ☐ EXISTING
- If the Process has the Potential to Emit more than five tons per year of any pollutant, and is a New Source, a Control Technology Analysis pursuant to Regulation No. 1125 Section 4 must be conducted and attached to this application.

Major New Source Review Information

23. Does the Process Have the Potential to Emit More Than the Significance Level for Any Pollutant? (Check All That Apply)



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Page 8 of 8

- ☐ Greater Than 25 Tons Per Year of Particulate Matter (PM)
- ☐ Greater Than 15 Tons Per Year of PM₁₀
- ☐ Greater Than 10 Tons Per Year of PM_{2.5}
- ☐ Greater Than 40 Tons Per Year of Sulfur Dioxide(SO₂)
- ☐ Greater Than 25 Tons Per Year of Nitrogen Oxides (NO_x) in New Castle and Kent County
- ☐ Greater Than 100 Tons Per Year of Nitrogen Oxides (NO_x) in Sussex County
- ☐ Greater Than 100 Tons Per Year of Carbon Monoxide (CO)
- ☐ Greater Than 25 Tons Per Year of Total Volatile Organic Compounds (VOCs) in New Castle and Kent County
- ☐ Greater Than 50 Tons Per Year of Total Volatile Organic Compounds (VOCs) in Sussex County
- ☐ Greater Than 75,000 Tons Per Year of Equivalent Carbon Dioxide (CO_{2e})

If the Process has the Potential to Emit greater than any of the amounts listed above 7 DE Admin. Code 1125 Sections 2 and/or 3 apply. Contact the Department at (302) 323-4542 or (302) 739-9402 for additional information

Additional Information

24. Is There Any Additional Information Pertinent to this Application? ☐ YES ☒ NO

If YES, complete the rest of Question 24.

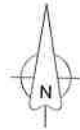
24.1. Describe:

Exhibit 1

Site Map & Aerial Photo

Site Location Map

SITE LOCATION MAP
PENN MAG, INC.
501 CHRISTIANA AVENUE
WILMINGTON, DE 19801



GRAPHIC SCALE



(IN FEET)
 1 inch = 600 ft.

Source: GOOGLE EARTH	Scale: 1"=600'	Approved By: Bradley J. Cunningham, P.E.	Date: 9/13/17
	Project No: 380.01	Drawn By: Benjamin McGovern	

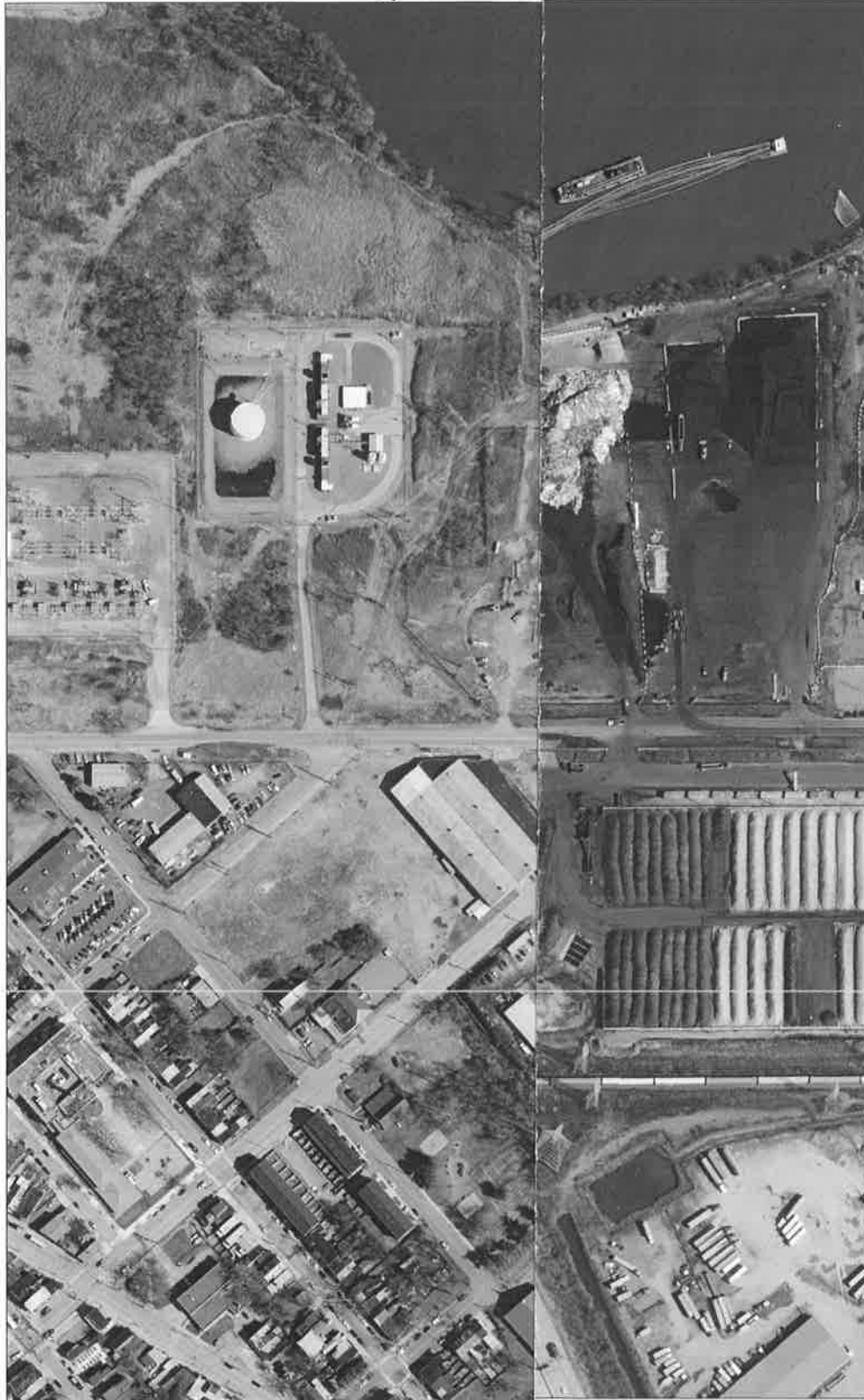


COMPLIANCE PLUS SERVICES, INC.
455 BUSINESS CENTER DRIVE
HORSHAM, PA 19044
PHONE: (215) 734-1414 * FAX: (215) 734-1424
www.CPS-2Comply.com

Drawing No.:

002

Aerial Photograph



5400 LIMESTONE ROAD
WILMINGTON, DE 19808-1232
TEL. 302.239.6634
FAX 302.239.8485

OFFICES IN DELAWARE, MARYLAND
PENNSYLVANIA AND NEW JERSEY
E-MAIL: DUFFIELD@DUFFNET.COM

DESIGNED BY: BJD

DRAWN BY: BJD

CHECKED BY:

FILE: B-8850MC-01

CONCEPT PLANNING
PROJECT LOCATION SKETCH
PENN MAG, INC.
NEW FACILITY AT PORT CONTRACTORS
WILMINGTON ~NEW CASTLE COUNTY ~ DELAWARE

DATE:
9 NOVEMBER 2017

SCALE:
1"=300'

PROJECT NO.
8850.MC

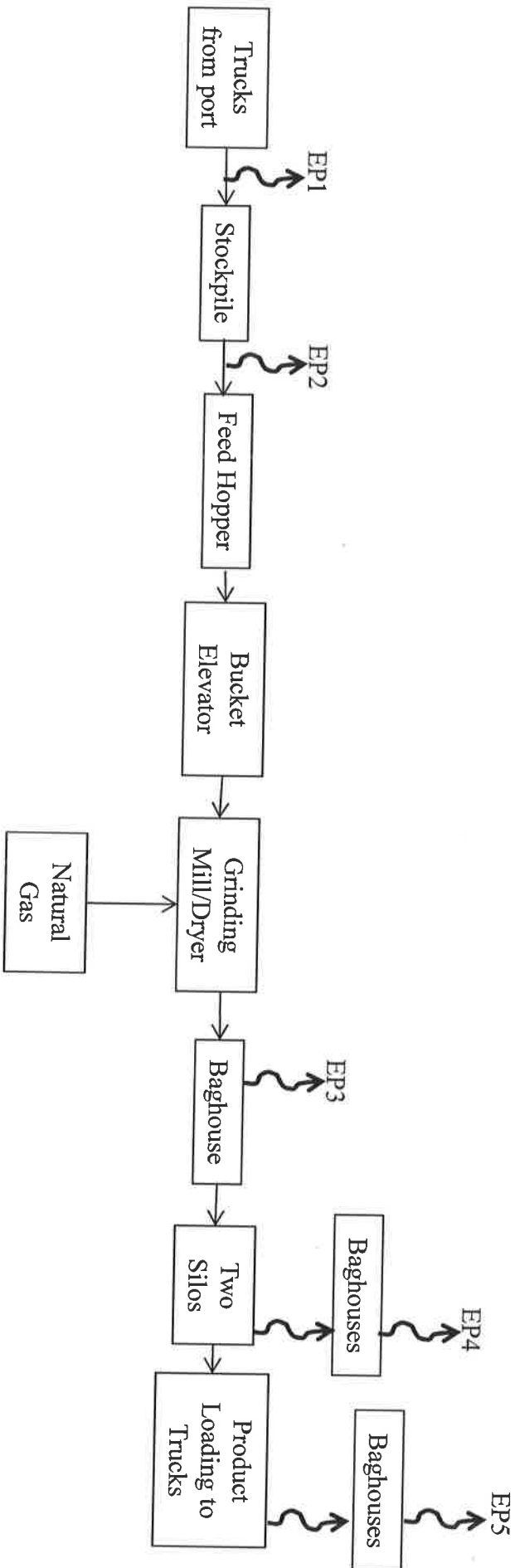
SHEET:
FIGURE 1

NOT PUBLICLY AVAILABLE FROM
SIS CENTER.

Exhibit 2

Process Flow Diagram

WALAN, LLC – Specialty Construction Materials Process Flow Diagram – Granulated Blast Furnace Slag (GBFS) Grinding Facility




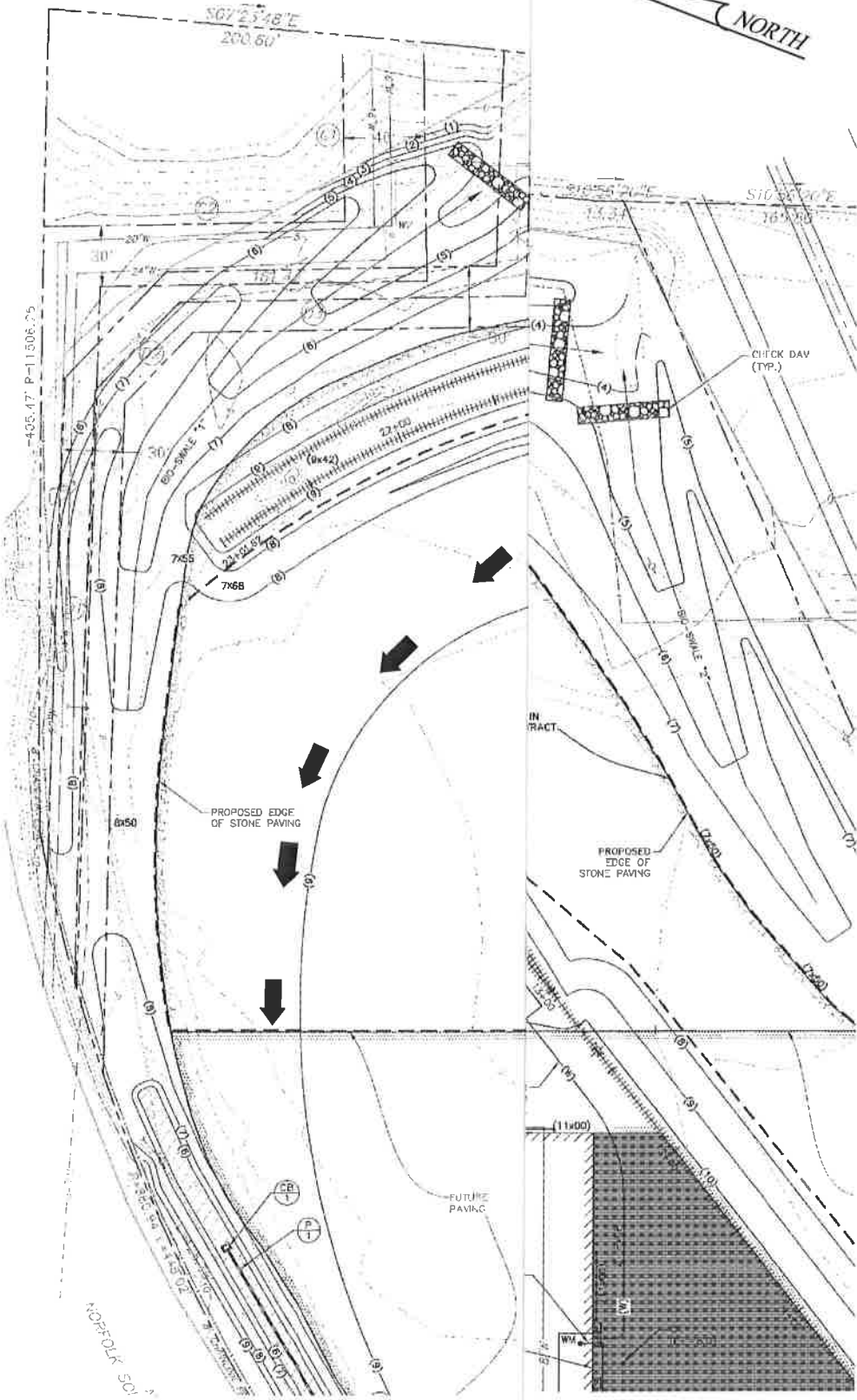
Penn Mag, Inc. 501 Christiana Avenue Wilmington, DE 19801	COMPLIANCE PLUS SERVICES, INC. 455 BUSINESS CENTER DRIVE SUITE 250 HORSHAM, PA 19044 PHONE (215) 734-1414 * FAX (215) 734-1424 www.CPS-2.comply.com	 COMPLIANCE PLUS SERVICES, INC.	Project No 0380.01 Scale NA Approved By C. Holdener Drawn By B. Mayer
Drawing: Process Flow Diagram			

Exhibit 3

Property Plot Plan and Proposed Equipment Layout Diagram

Property Site Plan



KEY:



ANTICIPATED TRAFFIC

CONSTRUCTION DOCUMENTS FOR
NEW FACILITY, WILMINGTON, NEW CASTLE
ARCHITECTURE DATED



5400 LIMESTONE ROAD
WILMINGTON, DE 19808-1232
TEL. 302.239.6634
FAX 302.239.8485
OFFICES IN DELAWARE, MARYLAND
PENNSYLVANIA AND NEW JERSEY
E-MAIL: DUFFIELD@DUFFNET.COM

DESIGNED BY: BJD

DRAWN BY: BJD

CHECKED BY:

FILE: B-8850MC-01

CONCEPT PLANNING
PROJECT LOGISTICS SKETCH
PENN MAG, INC.
NEW FACILITY AT PORT CONTRATORS
WILMINGTON ~NEW CASTLE COUNTY ~ DELAWARE

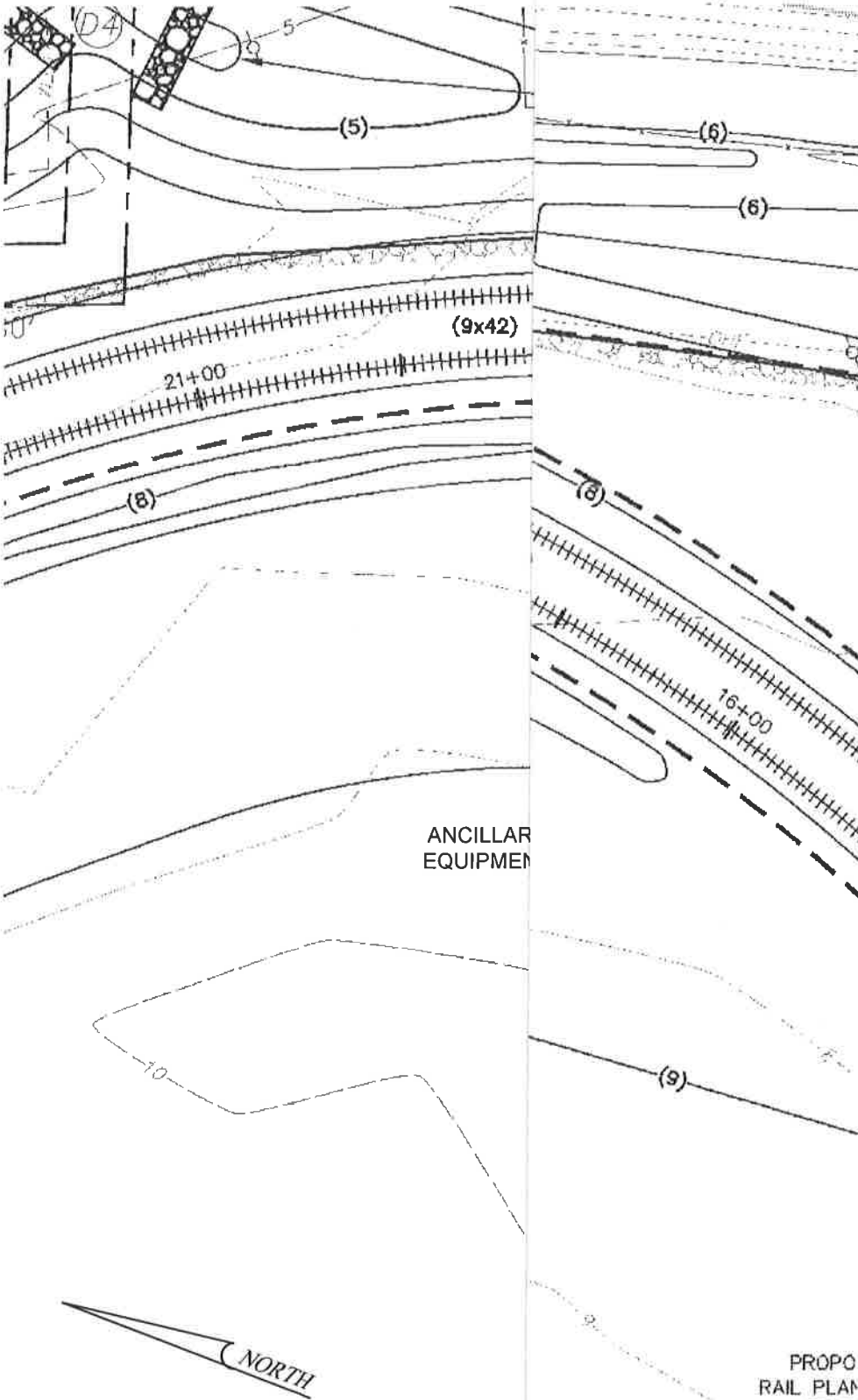
DATE:
9 NOVEMBER 2017

SCALE:
1"=80'

PROJECT NO.
8850.MC

SHEET:
FIGURE 2

Proposed Equipment Layout Diagram



5400 LIMESTONE ROAD
WILMINGTON, DE 19808-1232
TEL. 302.239.6634
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OFFICES IN DELAWARE, MARYLAND
PENNSYLVANIA AND NEW JERSEY
E-MAIL: DUFFIELD@DUFFNET.COM

DESIGNED BY: BJD

DRAWN BY: BJD

CHECKED BY:

FILE: B-8850MC-01

**CONCEPT PLANNING
PROJECT LAYOUT SKETCH**
PENN MAG, INC.
NEW FACILITY AT PORT CONTRATORS
WILMINGTON ~NEW CASTLE COUNTY ~ DELAWARE

DATE:
9 NOVEMBER 2017

SCALE:
1"=40'

PROJECT NO.
8850.MC

SHEET:
FIGURE 3

CONSTRUCTION DOCUMENTS FOR
NEW FACILITY, WILMINGTON, NEW CASTLE
COUNTY ARCHITECTURE DATED

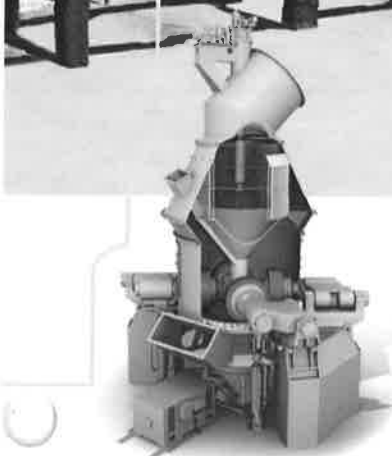
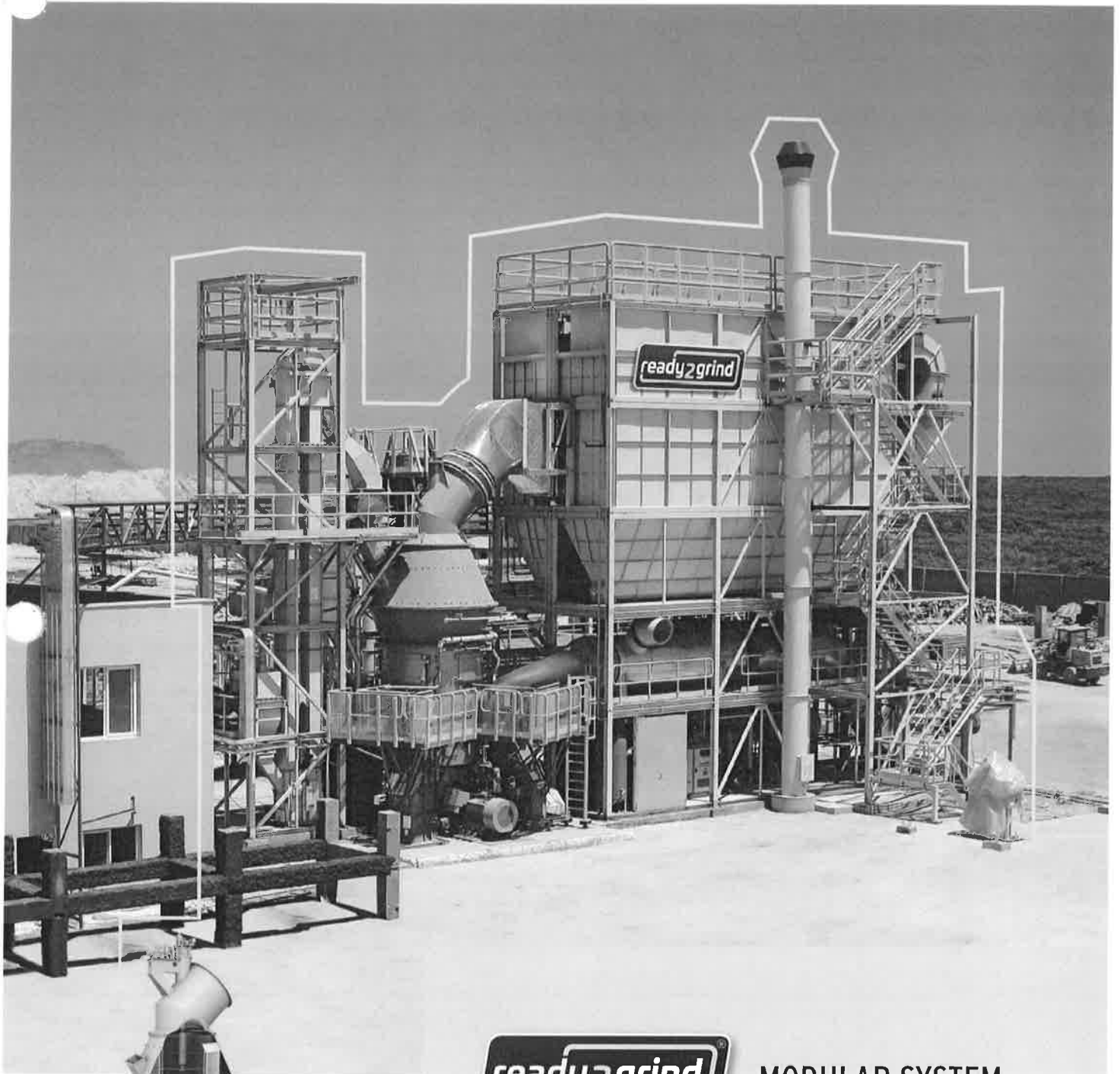
Exhibit 4

Equipment Information

*Ready2Grind[®] Modular System for
Grinding/Drying GBFS*



GEBR. PFEIFFER



MODULAR SYSTEM

Maximum flexibility with Pfeiffer's unique ready2grind



// Pfeiffer's modular mill solution enables flexible use in any place, bringing cement producers closer to their customers. This compact system is suited to producing all types of cement - perfect for local cement producers and market entrants as well as for large construction companies aiming to expand their position by manufacturing cement on the spot.

The ingenious design allows the ready2grind plant to be transported and mounted fast and efficiently with manageable costs - making it the perfect concept to respond rapidly to the changing needs of the local cement markets.

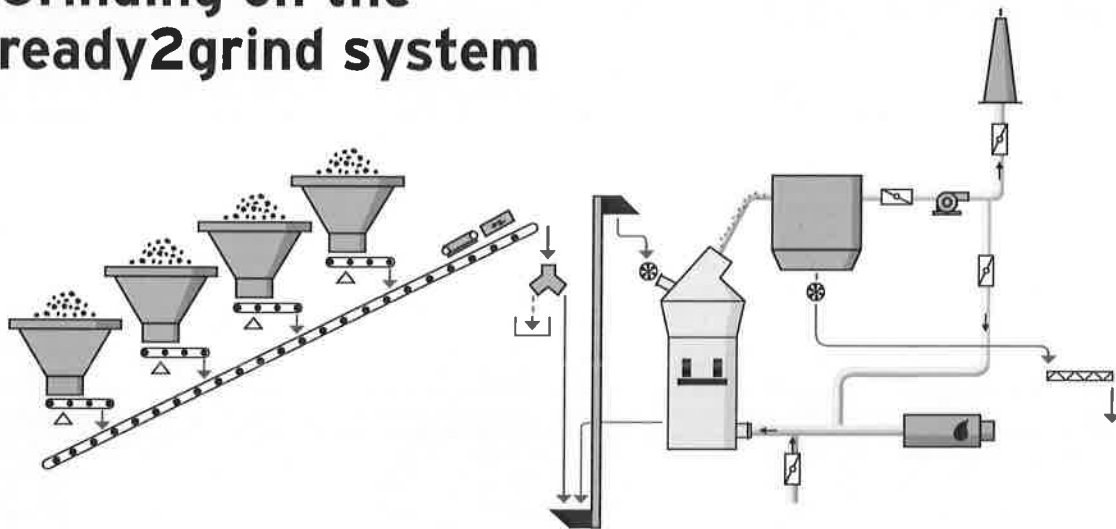
The advantages at one view:

- » highest reliability, proven concept
- » cost-efficient transportation in standard container dimensions
- » rapid delivery, installation and commissioning
- » highest operational availability with moderate investment
- » immediate market entry, short amortization, reduced investment risk
- » maximum flexibility, to react to changing market requirements at short notice

Features:

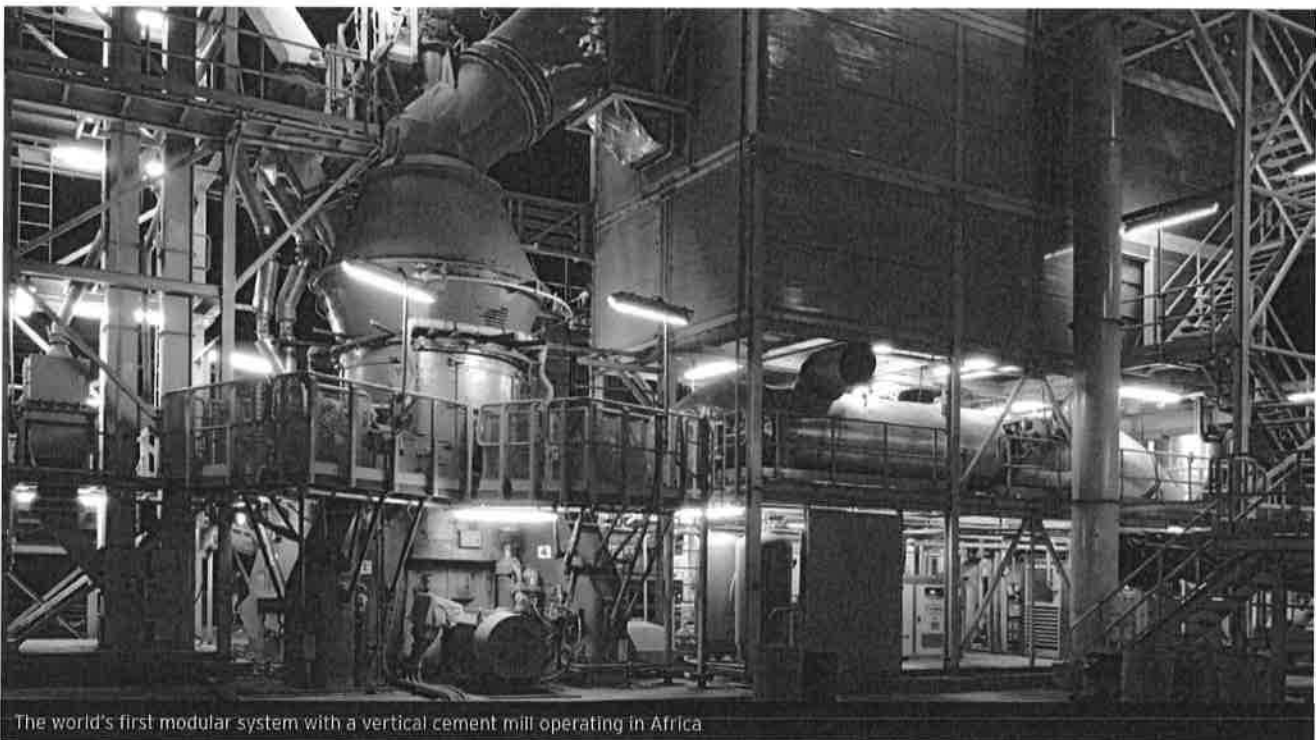
- » cement of any desired type
- » efficient VRM operation
- » different plant sizes available
- » compact modular design
- » flexible feed system
- » pre-assembled in standardized container dimensions
- » perfect for small-scale production
- » also available for other material such as limestone, gypsum, coal or similar

Grinding on the ready2grind system



// With its extraordinarily compact and modular design, the ready2grind system is preassembled for transportation in standard container dimensions. The grinding process is the same as that of bigger Pfeiffer grinding plants. The above flow sheet shows the process of cement grinding as an example.

Clinker and additives are ground, dried, and classified in the Pfeiffer vertical mill. Product quality and fineness can be set within wide limits (up to 6,000 cm²/g Blaine). The ground and dried product is separated from the process gas in a filter for entire dust collection which is followed by a fan. Downstream of the fan, the volume flow is divided: part of it is returned to the mill while the remainder is evacuated through the exhaust gas chimney.



The world's first modular system with a vertical cement mill operating in Africa



Proven mill technology for ambitious tasks

» The design of the ready2grind system is based on the Pfeiffer vertical roller mill technology approved across the globe and on the decade-long experience in developing innovative mill technologies. The Pfeiffer vertical roller mill at the core of the ready2grind solution guarantees the highest level of operational reliability.

Benefits of Pfeiffer vertical roller mills:

- » lower electrical power consumption: up to 40 % compared to ball mills
- » few ancillaries required, little to no building volume compared to other systems
- » maximum availability: minimum maintenance downtime
- » very quick product change-over
- » low vibration level
- » grinding, drying and classifying, all in one machine

Standardized ready2grind systems for different throughput rates

GEBR. PFEIFFER ready2grind - performance table

■ R2G 1800 C-4 / ■ R2G 2500 C-4

Product		Portland Cement CEM I		Limestone Cement CEM II / B - L		Ground granulated blast-furnace slag (GGBFS)	
Fineness acc. to Blaine		3300	4000	4000	5000	3800	4500
Grindability	kWh/t	18	22	15	19	23	27
Production rate	t/h	25 / 60	20 / 50	30 / 72	23 / 57	21 / 47	18 / 44
Max feed grain size	mm	35 / 50					
Approx. yearly production rate	t/a	up to 200,000 / up to 450,000					
Installed mill motor power	kW	560 / 1260					
Total installed power	kW	about 1200 / about 2300					



GEBR. PFEIFFER

The world's first modular system with a vertical cement mill has been operating since Feb. 2017.

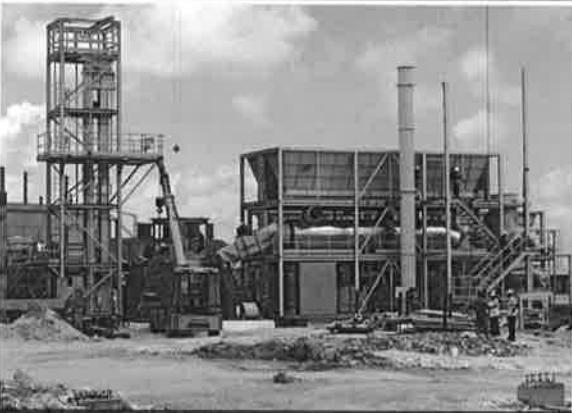
Installation procedure



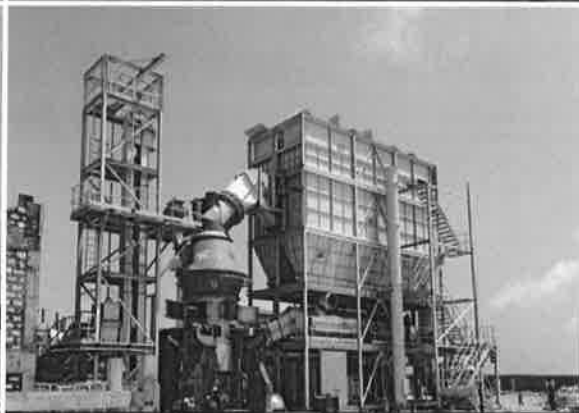
Client has prepared the site



Starting



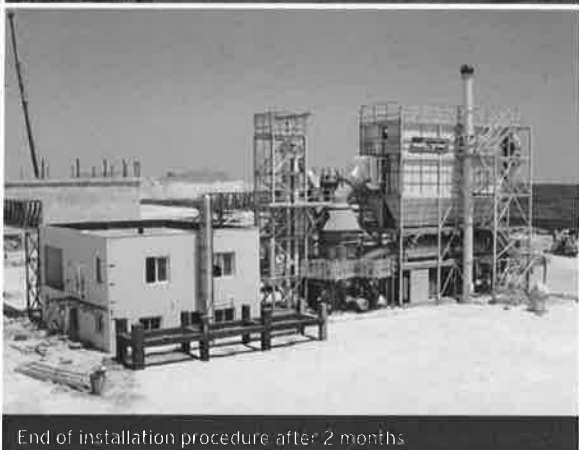
Growing



Nearly ready



Decoration and small issues



End of installation procedure after 2 months



SCOPE OF EQUIPMENT AND SERVICE SUPPLY

A. BASE PLANT MODULES

- A. 1 Feed material dosing and feed hoppers
- A. 2 Material feeding to mill
- A. 3 Mill, classifier and ancillaries
- A. 4 Process filter, hot gas generator and fan
- A. 5 Electrical controls and drives

B. OPTIONAL EQUIPMENT MODULES

- B. 1 Product transport and storage silos
- B. 2 Packing and truck loading
- B. 3 Bulk loading equipment
- B. 4 Laboratory equipment
- B. 5 Fuel storage
- B. 6 Intermediate storage silos
- B. 7 Transformer station

C. OPTIONAL SERVICE MODULES

- C. 1 Operator training
- C. 2 Maintenance training
- C. 3 Service contracts

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nagui.fam@teg-eg.com

**Regional Office Gebr. Pfeiffer SE,
Malaysia**
Tel.: +60 12 777 644 1
timothy.burden@gebr-pfeiffer.com

*REDECAM[®] Baghouse - Servicing Grinding
Operation*



BAG FILTERS (BAGHOUSES)

Bag Filters (baghouses) have been our core product for over 30 years. With our own proprietary technology, our Bag Filters offer the highest particulate removal efficiency on the market, far exceeding the most stringent emissions regulations worldwide. Our secret has been to constantly evolve with technology and search for improvements to provide our customers with optimum air filtration solutions.

WHY CHOOSE OUR BAG FILTERS?

Unsurpassed filtration

Our Bag Filters can far exceed the strictest regulations and can remove more fine and ultra-fine particulates than any other on the market.

Incomparable life expectancy

We have Bag Filters that were installed over 25 years ago that still achieve the strictest emission requirements today.

Innovative solutions

Our persistent R&D has led to innovations such as our Dual- and Multi-Input Integrated Systems, saving CAPEX and space.

Guaranteed casing tightness

Our SPS bag fixation system ensures 100% casing tightness, meaning no dust leakages.

Reduced energy costs

Redecam's Bi-Jet Bag Cleaning System reduces your system's compressed air usage by up to 40%, lowering energy costs.

High temperature capacity

We offer Extreme High Temperature Bag Filters which can withstand temperatures of up to 1000°C (1832°F).

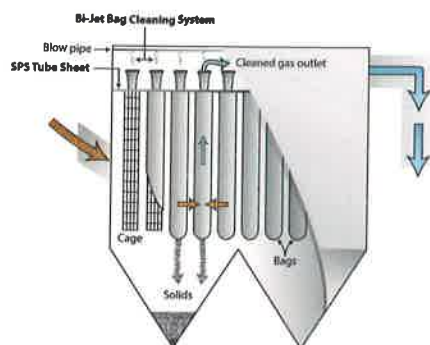


REDECAMGROUP

BAG FILTERS: MODELS AND UNIQUE FEATURES

We offer a wide variety of Bag Filters and Nuisance Filters to suit any flow rate and dust burden. All models feature our innovative SPS bag fixation system and our Bi-Jet Bag Cleaning System, ensuring optimal air filtration and lower operating costs (SPS and Bi-Jet are optional on Nuisance Filters). All of our models are also available as retrofits, upgrades or transformations. Among our most popular models are our DPD- and DPM-Model Bag Filters.

Please visit the Products section of our website at www.redecam.com for information about our other Bag Filter models.



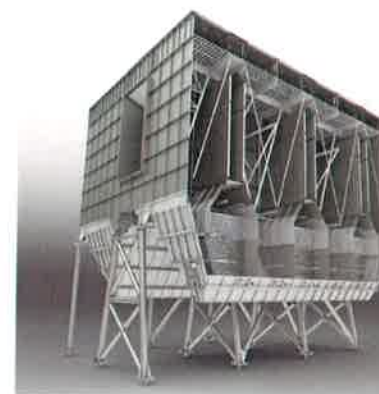
We offer **multiple** Bag Filter models for flow rates from 10,000 m³ to 3,000,000 m³ (353,000 ft³ to 105,000,000 ft³) and for dust loads of 1 g to 1 kg (0.035 oz to 35 oz).

Our DPD-Model Bag Filter

DPD-Model Bag Filters are suited for high flow rates (above 1.5 million m³/hr or 883,000 ACFM) and medium inlet dust burden applications (up to 200 g/Nm³ or 0.087 gr/ft³). Examples include installations with 3-fan kiln circuits, clinker coolers or our Dual-Input Integrated System, as well as solutions in large power plants or integrating flue gas treatment.

This model has compartments placed in pairs on either side of a large central duct. The central duct contains separate ducts for the inlet (dirty) gas and the outlet (clean) gas.

The baffles (pipes and perforated plates) are specially designed for each project to ensure the ideal permeability and orientation in order to obtain a uniform gas velocity throughout each pair of compartments. As particles are captured, they enter hoppers through isolation dampers, designed to provide superior airflow control in severe environments.



Our
DPM-Model
Bag Filter

DPM-Model Bag Filters are suitable for high flow rates (above 1.5 million m³/hr or 883,000 ACFM) and high inlet dust burden applications (up to 1000 g/Nm³ or 0.44 gr/ft³). Examples include installations with 2-fan kiln systems, in cement mills or on separators. In such cases, there is a need for efficient dust pre-separation to reduce the dust burden reaching the bags.

A wide central hopper is used to decrease the axial gas velocity so that a dust pre dropping action takes place. Suitable baffles between the gas inlet and the central hopper ensure a uniform gas flow and velocity across the hopper cross-section. Indeed the gas, after being largely pre-separated of its dust, rises up in the central hopper and passes through **our unique Distribution Screen**, which acts as another dust separator. This screen disperses the gas/dust evenly throughout the filter bag compartments, resulting in a highly efficient process. This translates into a lower pressure drop, fewer cleaning cycles, a longer bag lifetime and significant compressed air savings, meaning lower energy consumption.

While the air-to-cloth ratio is of utmost importance for DPM-Model Bag Filters, the can velocity has no impact on the design since the gas flow to bags is horizontal. Access is made on one side of the bags in order to avoid the gas rising after mixing with the dropping dust.



OUR EXTREME HIGH TEMPERATURE BAG FILTER

This new technology extends our air pollution control offering, as our Extreme High Temperature Bag Filter (EHT-Bag Filter) can remove both solids and tars while withstanding temperatures of up to 850°C (1562°F). It can even treat peak temperatures of up to 1000°C (1832°F).

Our EHT-Bag Filters are therefore ideal for the Oil & Gas industry and offer benefits for certain applications in the Cement, Metals & Mining and Waste-to-Energy & Biomass Power industries. Equipped with ceramic catalytic candles, our EHT-Bag Filters can be paired with our full flue gas treatment (FGT) system – whether to treat acid gases, mercury and metals or NO_x – or all of these pollutants.



Our Extreme High Temperature Bag Filters can withstand temperatures of up to 1000°C (1832°F)

ADVANTAGES OF OUR EXTREME HIGH TEMPERATURE BAG FILTER:

- 1 **Optimal performance.** Our filters can achieve near zero emission levels.
- 2 **Lower CAPEX & OPEX.** There's no need for further cooling systems, as the bags can withstand such high temperatures.
- 3 **Saves on energy costs.** It is possible to recover heat by installing a waste heat recovery system downstream of the EHT-Bag Filter.
- 4 **Safe.** Our special filter bags are non-flammable and 100% spark resistant.
- 5 **Easy installation and maintenance.** Our outer and inner collar sealing sets have readjustable bayonet locks and are flexible.

The design of our EHT-Bag Filter is not unlike our regular Bag Filters, but the filter material and the sealing technology are very different. The filters in the EHT-Bag Filter are rigid with a consistency like cardboard, and they don't need a cage inside as they are self-supporting.



IDEAL APPLICATIONS FOR OUR EHT-BAG FILTER:

Oil & Gas industry (gasification)

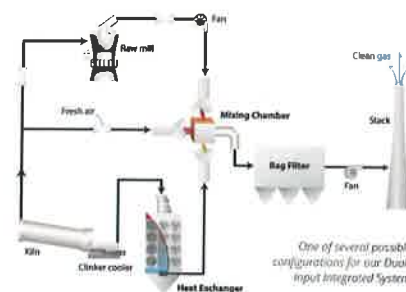
Cement industry (clinker cooler)

Biomass and WTE (incineration)

Metals & Mining (aluminum calcination, melting process and separation of precious metals)

OUR DUAL- AND MULTI-INPUT INTEGRATED SYSTEMS

Amongst our innovations are systems in which **one Redecam Bag Filter** is used to dedust gases from **two or more** process or unit points to save our clients significant space and CAPEX. Our Dual Input Integrated System, developed for the cement industry, uses one Bag Filter to dedust both the kiln & raw mill and the clinker cooler. For the Metals & Mining and Oil & Gas industries, we created Multi-Input Integrated Systems, which collect flows from several process points or units and converge them into one Bag Filter (ex: converging the gases from the Electric Arc Furnace or another primary hot source with gases from a secondary cold source into one baghouse).



One of several possible configurations for our Dual-Input Integrated System

OUR SPECIALIZED RETROFIT & TRANSFORMATION SOLUTIONS



Redecam is a market leader in carrying out retrofit and transformation solutions: they are among our specialties. Many existing bag filters and electrostatic precipitators (ESPs) have become obsolete, either due to their age or their lower performance than current standards require. However in several cases, existing bag filters can be upgraded or retrofitted (taking out what's inside, keeping the casing and installing new Redecam components inside).

Transformations are also possible. This means changing an existing ESP into a Bag Filter, or vice-versa.

Advantages:

- 1 Lower CAPEX than replacing with a new model
- 2 Emissions can be reduced to well under the world's strictest emissions limits
- 3 Transformations can be made within the existing footprint
- 4 Minimal ductwork modifications/additions
- 5 Reuse of existing ancillary equipment

OUR SPS BAG FIXATION SYSTEM

Continuous laboratory tests and on site work experience inspired us to develop the most advanced, user-friendly and efficient bag fixation system on the market: our Simple Pressure System (SPS). Our SPS guarantees that the tightness of the casing between the dusty and clean sides is 100% effective.

To prevent dust leakage at weak points, we increased the contact surface area of the bag against the tube sheet by extending and contouring the tube sheet opening. The surface contact is therefore not limited to the pure thickness (typically 4 mm or 5/32") of the plate, but is extended to the entire internal surface of the drawn hole (around 18 mm or 45/64").

Our Simple Pressure System offers quick and easy installation



Venturi



Simple Pressure System collar



Cage

We design our bag collar to apply extreme pressure on the sealing surface

We increased the pressure of the bag collar on the drawn edge of the tube sheet hole, firmly securing the bag's cloth. The collar is also designed to take advantage of the temperature: the tube sheet is carbon steel and the collar is in aluminum, resulting in extreme pressure being generated on the sealing surface.

Other advantages to our SPS:

- 1 Bag installation and removal is simple and quick
- 2 No risk of bags falling during installation or maintenance
- 3 Bags cannot drop into the hopper thanks to the ring in solid steel embedded at the top of each bag



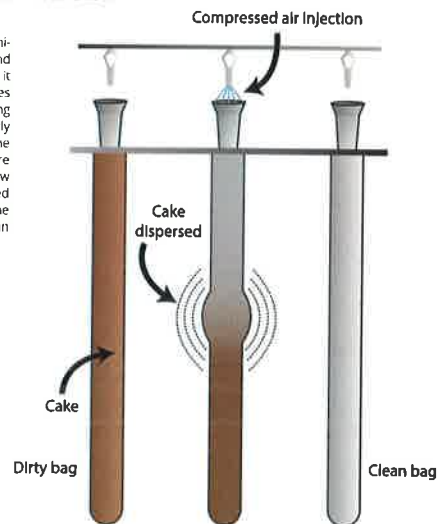
OUR BI-JET BAG CLEANING SYSTEM

Our Bi Jet Bag Cleaning System increases the volume of air that is forced into the bag inlet, while reducing the consumption of compressed air. How? We use a Dual Venturi arrangement: one pipe is located downstream of the nozzle and the other, above the bag inlet. This system minimizes the dispersion of compressed air during the injection phase, thus increasing the volume of air forced into the bag. In turn, this reduces the quantity of air needed to pulsate the bag and achieves a higher flow velocity than in systems equipped with one Venturi.

Redecam offers both online and offline/semi-offline cleaning systems. We recommend our online system for most customers as it provides less stress on mechanical devices (since its compartments do not close during cleaning operations) and consequently reduces power consumption. Our online system maintains both a constant pressure across the filter and a constant dust flow toward the dust discharge system. Compared to an offline filter that operates at the same air-to-cloth ratio, a filter cleaned with an online process has less cloth surface area.



Our Dual Venturi arrangement optimizes the pressure for bag cleaning, reducing costs



Our specially designed nozzle creates an intense air jet, concentrating the air flow into the bag and reducing the amount of compressed air required

Redecam recommends offline (or semi-offline) cleaning filters for certain applications: when the dust contains very high quantities of fine particulates or if the filter does not act simply as a dust collector, but as a reactor as well, using its bags as a reaction layer.

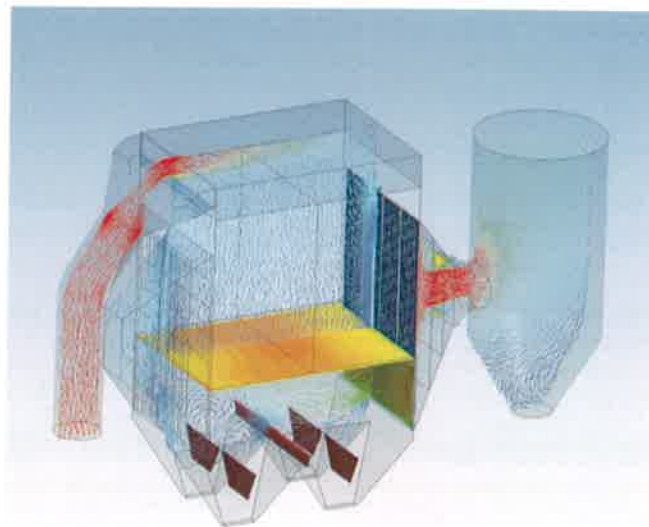
DESIGN & MODELLING

DESIGN PARAMETERS

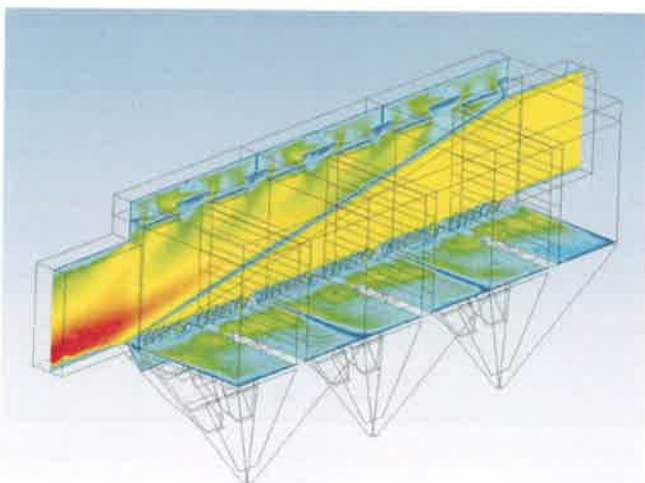
Your process parameters are key in selecting an appropriate Bag Filter design. Our engineering team has 30+ years of experience in surveying the output and needs of various plants, and will study yours to find an appropriate solution to reach your desired emissions reductions.

To determine the appropriate filter size, we must study the air-to-cloth ratio and can velocity. An appropriate air-to-cloth ratio is required to avoid high-speed impact of dust particles against the cloth, as this leads to early bag replacement.

To optimize the can velocity in the Bag Filter compartments, the distance between bags in each row as well as between the rows is calculated and defined for each specific case. These considerations are also used to determine the most suitable bag length and the number of compartments needed.



We develop the **highest quality** air pollution control products available.



MODELLING

We use Ansys's Fluent software to accurately design and study every solution. This allows us to engineer and analyze each system's broad physical capabilities, optimize the fluid dynamics and study the efficiency of pollutants removal. When a computerized simulation is not sufficient, we undertake a physical simulation on a 1:7 scale in our Milan workshop.

Redecam offers a comprehensive portfolio of air filtration, flue gas treatment (FGT), gas conditioning and transportation, handling & storage products. Please contact us to see how we can take care of all your air pollution control needs.



REDECAMGROUP

Visit our website to learn more at
www.redecam.com
or scan this code:



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☎ +56 2 2789 0358
redecam.chile@redecam.com

TYPICAL DESIGN FOR THE GPINC "READY2GRIND" SYSTEM

Typical design GBFS Handling, Grinding, Storage and Loadout

- **Equipment information: Process Baghouse Filter**

Vendor: Redecam

MECHANICAL DESIGN		
Filter type		2 DPZ 60x10/7-W
Housing design pressure @ 150 °C	daPa	-1200
Type of construction		welded
Housing width	mm	6.932
Housing length	mm	11.944
Clean gas chamber height	mm	850
Hopper type		Trough
Hopper face angle	°	61
Number of compartments		2
Excludable compartments		no
Compartment width	mm	2.284
Compartment length	mm	11.944
Gas flow distribution at bag contact		double
CLEANING SYSTEM		
Type of cleaning system		on-line
Cleaning valves		
Valve size		2"
Total valves quantity		120
Quantity of valves each compartment		60
Quantity of bags each valve		10
Compressed air		
Normal compressed air consumption	Nm3/h	70
Maximum compressed air consumption	Nm3/h	174
Compressed air pressure at our mains	bar(g)	5,5
BAGS & CAGES		
Bags		
Fixation system		Snap-ring
Bag material		Polyester/Acrylic
Bag specific weight - nominal	g/m2	600
Treatment		Hydro-Oil Repellent Treatment
Max. operating temperature	°C	125
Bags nominal diameter	mm	127
Bags nominal length	mm	7.000

Total bags quantity		1.200
Cloth area	m2	3.351
Rows of bags per compartment		60
Number of bags per compartment		600
Cages		
Quantity of cage split		2
Number of vertical wires of the cages		12

Fan Specifications

Fan type: VR53S0mH1AK2000

General description		Surface [m²]	Mass [kg]
1	fan with back blade with cleaning opening with condensate drain with suction box with cleaning opening with condensate drain coupling with protection Primary drive motor assembly test run		7.677
2	primary drive		4.200
3	accessories		
3.1	Kompensatoren S1 material three layer PU/Glastextile - PTFE - PTFE/Glastextil A: 1888mm, B: 1048mm, EH: 300mm flow plate material 1.0038 mobile flange material 1.0038		133
3.2	Kompensatoren VD material three layer PU/Glastextile - PTFE - PTFE/Glastextil A: 1580mm, B: 780mm, EH: 200mm flow plate material 1.0038 mobile flange material 1.0038		97
3.3	vibration control VIBREX VIB 5.762 I 2-channel vibration control, 10 m		
3.4	heat control 2 x Pt100, 4-way conductor, with Transmitter E+H TMT 182, 4-		
3.5	Set Anchor bolts		
3.6	additional price flender arpx with spacer		
Sum			12.107

Storage Silos

IT ONLY

Bucket Elevator
I I

92'-0 3/4"

Bucket Elevator

NOTE the "False Bottom" idea is under review.

SIDE VIEW OF
FUTURE FEED CONVEYOR
(Length to be determined)

RAIL CAR LOADING

11

19'-1 1/2"

16'

DRAWING NO.	REFERENCE
-------------	-----------

FOR: PENN MAG INC.	JOB NO.	REV. NO.
TITLE: WILMINGTON LOADOUT SILOS	SHEET NO. 1 OF 1	2

*C&W Manufacturing and Sales Company -
Cartridge Plus CP-Series Silo Dust
Collectors*

Cartridge Pulse

CP- Series Silo Dust Collectors

Silo
Collectors

Central
Collectors

Silo Saver
Systems

Transfer
Packages

Slump
Master 3



Sampling of Silo Collectors: CP-1335S, CP-2000S, CP-2665S, CP-3335S CP-4000S



Weigh Batcher - CP-35



Interior of CP-2665S (formerly called CP-305)



C&W Manufacturing and Sales Co.
1-800-880-DUST
www.cwmfg.com

**C&W**
Manufacturing and Sales
1 (800) 880-3878

CP-Series Silo Dust Collectors

General Information

C&W's CP-Series of Silo Dust Collectors offer you Pulse-Jet Technology combined with our cartridge filters to provide a highly effective, yet inexpensive solution for dust control. Our CP Silo Collectors are engineered by dust control specialists with careful attention to efficiency and user-friendliness. Also, available are weigh batcher collectors and round silo collectors.

Options

- Flow Sensor Switch
- Pressure Switch for Automatic Cleaning
- Mini-helic Gauge
- Custom Designs and Sizes
- Silo Anti-Overfill System
- Special Mounting Flange for Adapting to Existing Flange
- Blower Packages, Standard or Custom-Built
- Special Filter Media
- Pressure Relief Valves and Bin Indicators

Specs

Specifications	CP-35	CP-70	CP-88	CP-1335S	CP-2000S	CP-2665S
Total Filtration Area (sq. ft.)	45	90	90	210	315	420
Number of Cartridges	2	4	4	4	6	8
Air to Cloth Ratio	4.78	4.78	4.78	6.36	6.35	6.35
Cartridge Size	8" x 19"	8" x 19"	8" x 19"	8" x 39"	8" x 39"	8" x 39"
Static Pressure Drop	6" W.C.	6" W.C.	6" W.C.	6" W.C.	6" W.C.	6" W.C.
Compressed Air Req.	2	2	2	2	2	3
CFM Recommended	216	432	432	1335	2000	2665
Min. Design Efficiency*	99.99%	99.99%	99.99%	99.99%	99.99%	99.99%
Cleaning Mechanism	Pulse Jet	Pulse Jet	Pulse Jet	Pulse Jet	Pulse Jet	Pulse Jet

Specifications	CP-3335S	CP-4000S	CP-5000S
Total Filtration Area (sq. ft.)	525	630	787.5
Number of Cartridges	10	12	15
Air to Cloth Ratio	6.35	6.35	6.35
Cartridge Size	8" x 39"	8" x 39"	8" x 39"
Static Pressure Drop	6" W.C.	6" W.C.	6" W.C.
Compressed Air Required	4	5	5
CFM Recommended	3335	4000	5000
Min. Design Efficiency*	99.99%	99.99%	99.99%
Cleaning Mechanism	Pulse Jet	Pulse Jet	Pulse Jet

* At Standard Test Conditions

Benefits	Features:
Easy to Maintain	Tool-less Exchange of Filter Media
	Top Entry for Clean Side Filter Exchange
Efficiency	99.99% Filtration Efficiency*
Efficiency, Compact	Vertical, Wide-Pleat Cartridges
Performance	Inlet Air Regulator and Moisture Separator
	Test Ports for Monitoring Filter Media
Reliable, Easy to Operate	Solid State Adjustable Timers w/ LED Display
Long-Lasting, Durable	12 Gauge, Heavy Duty Steel Construction

Most Popular add-on:

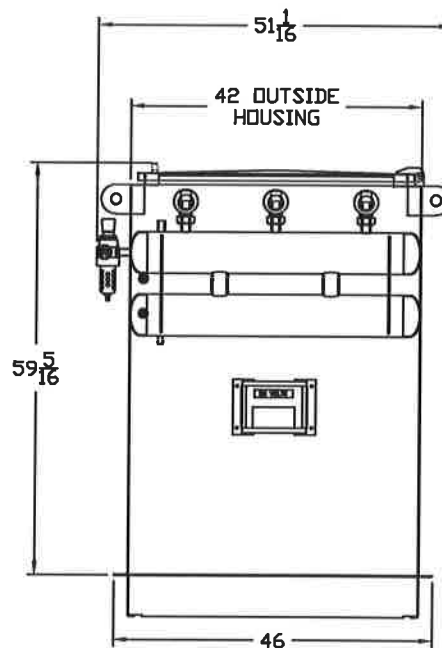
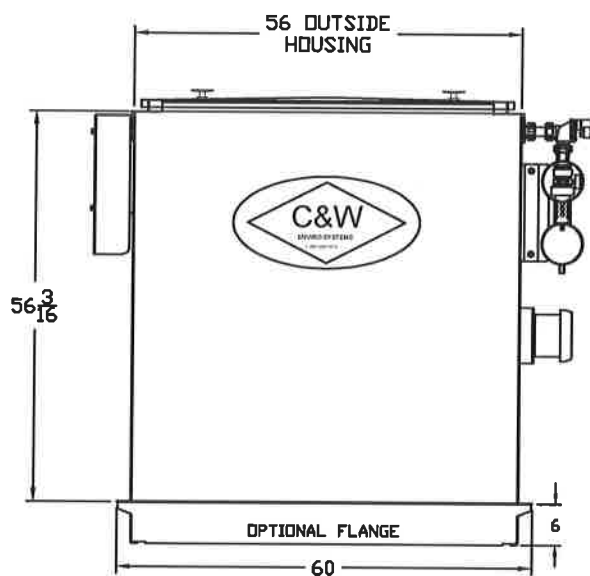
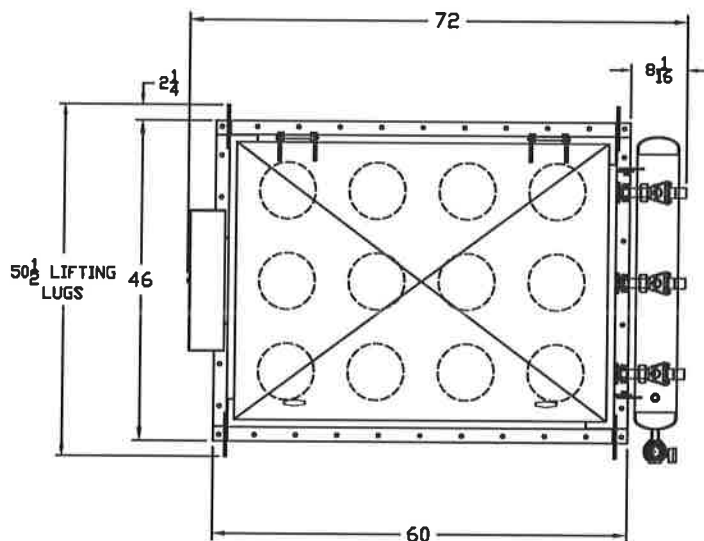


Flow switch: Detects the flow of air through the silo and turns the cleaning cycle on while silo is being filled. When the flow of material into the silo stops, unit automatically turns the cleaning cycle off.



Galvanized or Stainless Steel units are available for specialized applications.

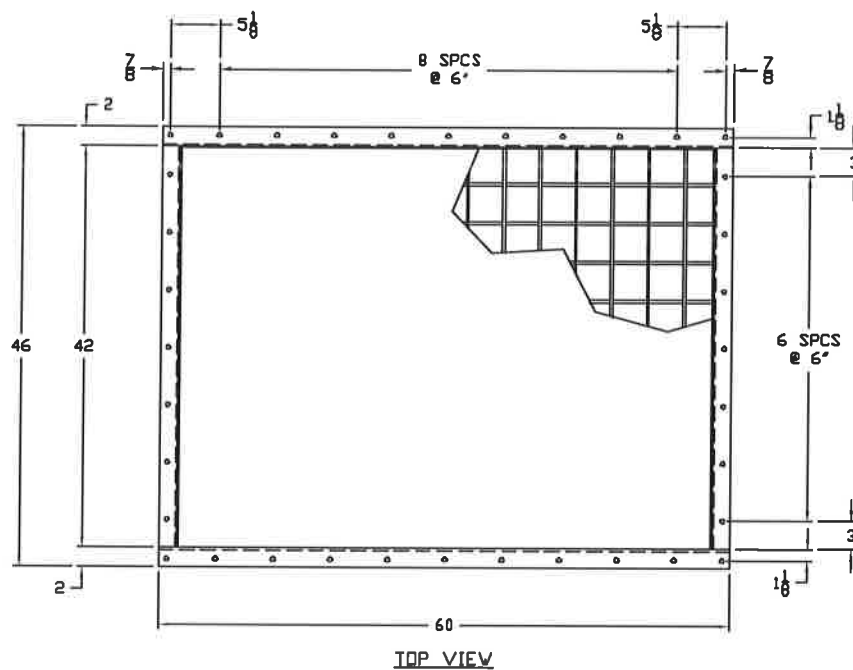
C&W Manufacturing
 P.O. Box 908
 Crowley, Texas 76036
 1-800-880-DUST
 www.cwmfg.com



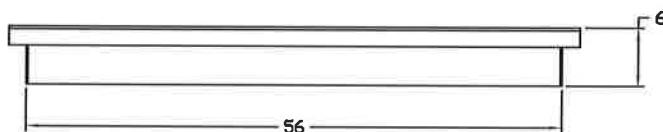
CP-4000 SILO CARTRIDGE PULSE JET COLLECTOR
GENERAL ARRANGEMENT



C & W MFG. & SALES CO.
6933 SHELMOR RD.
ALVARADO, TX 76009 (817)790-5000



TOP VIEW



FRONT VIEW

CP-300, CP-450-1239, CP-760 MOUNT FLANGE ASSY



C & W MFG. & SALES CO.
6933 SHELMOR RD.
ALVARADO, TX 76009 (817)790-5000



iFIL USA, LLC

USA Manufacturing & Sales Division

1801 Vine Street
Harrisonville, MO 64701
USA

Main: 888-849-0015
Fax: 888-849-1362

Technical Data Sheet

Filter media:	FM0105
Construction:	100% Polyester spunbond media with point bond finish and treated with a hydrophobic / oleophobic finish
Color:	White
Weight:	7.7 oz/yd ² (260 g/m ²)
Thickness:	0.024 inch (0.66 mm)
Permeability:	18 - 26 ft ³ /ft ² /min. @ 1/2" H ₂ O 400 - 650 m ³ /m ² /Std. @ 200Pa
Max. Operating Temperature:	265°F (130°C)
Tensile Strength:	200 lbs/2-in. strip (91 kg/5 cm strip) – MD 125 lbs/2-in. strip (57 kg/5 cm strip) – CMD
Mullen Strength:	350 lbs/in ² (24.6 kg/cm ²)
Dust Release Properties:	Very good
Filtration Efficiency:	> 99.9 % for particle size range between 0.2 μ- 2.0 μ
BGIA-Filter Class:	"M" – per Test Method: DIN EN 60335-2-69

This data is to be considered as typical, and for information purposes only. All specifications are subject to change.

*DCL, Inc. - Model CFM330 Dustless
Loadout Chute Manifold with TL-DCL
Pleated Cartridge Filters*



Dust Control and Loading Systems Inc

Leaders in Innovative Bulk Loading Systems Design

Loading Spouts

LOADING SPOUTS

EV enclosed vehicle or OV open vehicle spouts provide excellent dust free loading performance for trucks and railcars. DCL has incorporated 20 years of experience in bulk loading of dry materials into this new service friendly retractable spout design. The low profile feature makes this spout the best choice when faced with limited space conditions.



Model EV24 loading spout shown in retracted position.

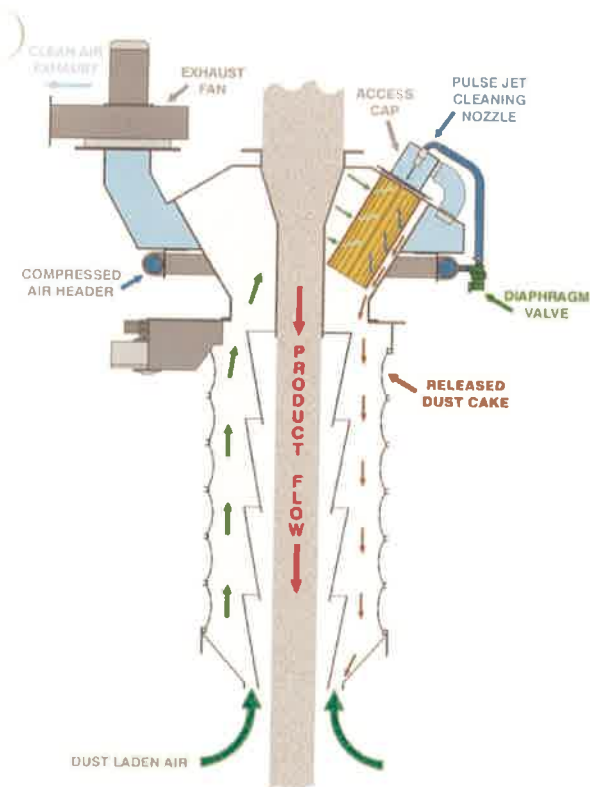
- Easy access to drive components.
- Three cable hoist system providing maximum spout stability.
- Shipped completely assembled and tested.
- Slack cable and drive limits factory set.
- Internal stacking product flow control cones are constructed from urethane, AR steel or optional stainless steel.
- Wide selection of flexible outer spout sleeve materials for high and low temperature applications provided with heavy duty aluminum stacking type support rings.
- EV enclosed vehicle or OV open vehicle discharge configuration.
- Vertical travels up to 18 feet.
- Loading capacities of up to 450 cu ft/min of fine aerated materials.
- Collar style dust outlet for connection to a free standing dust collector or vent through frame configuration for connection to an inline filter module.



The CFM filter module adds 30" to the retracted spout height. UN800 spout shown.

SPOUT / CFM COMBINATION

DCL's new Compact Filter Module provides the industries lowest profile filter/loading spout combination. The CFM filter module can be used inline with loading spouts for dust control during the loading of dry, dusty materials into open or enclosed vehicles. The dust collected is re-entrained with the material being loaded which makes the CFM Filter Module an ideal and cost effective package. When comparing the new design of the CFM filter module to free standing units, the savings in space and money become apparent with the elimination of expensive duct work, discharge air locks and hopper discharge systems. For detailed CFM specifications see flier PUBc-0609-DCFM.

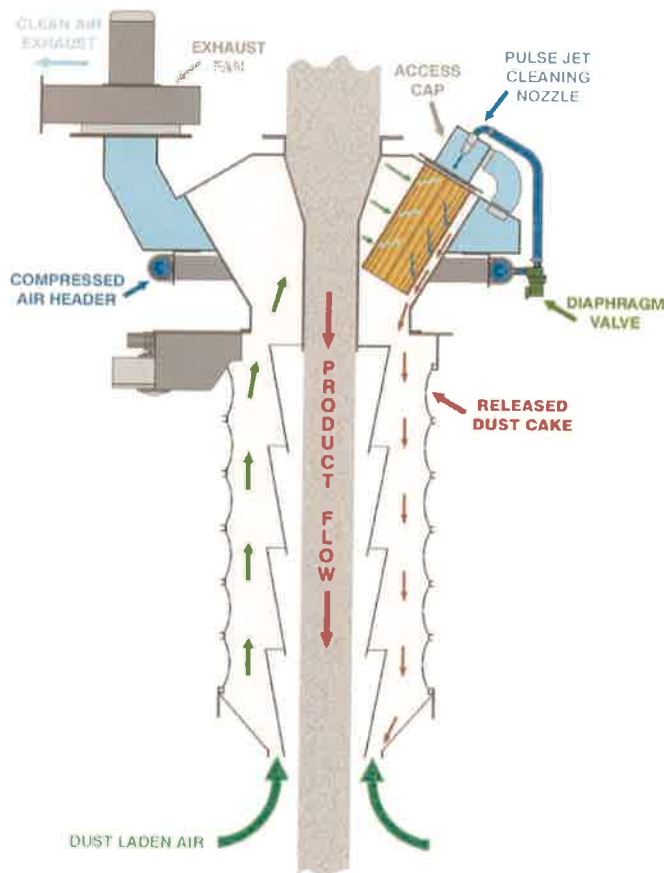
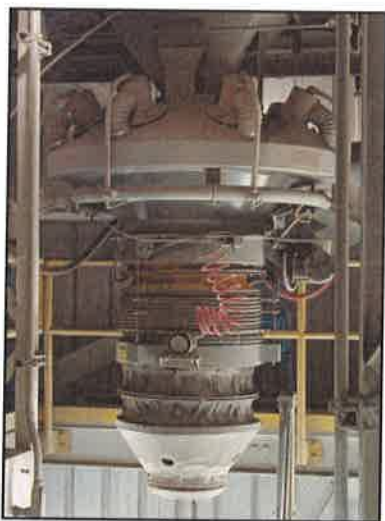


Compact Filter Module

APPLICATION

The Compact Filter Module is ideal for use inline at any bulk material transfer point requiring dust control. Its low profile configuration also makes the CFM the best choice for inline filtration when intergraded with a DCL Loading Spout. The flow tube can be eliminated making this unit suitable as a bin vent for any tight headroom conditions.

When used as an inline filter, product flows through a central flow tube while isolated from the upward dust entrained airflow. The collected dust is deposited back to the material being handled making the Compact Filter Module an ideal cost effective package especially when compared to a free standing dust collector utilizing duct work, discharge air lock, and often a means to convey the dust back to the system.



FEATURES

The exhaust fan can be directly mounted to the assembly eliminating the need for a remote fan placement. The unique design provides internal velocities that are lower than what is normally expected from conventional designs resulting in less load on the filtration media. The filter elements are automatically cleaned during operation with a conventional 80 PSI pulse jet system. The unit can be provided with a final clean feature that is activated at the end of each loading cycle fully cleaning all elements, eliminating residuals.

231.547.5600 (TEL://+12315475600)

CONTACT US (/CONTACT-US/)

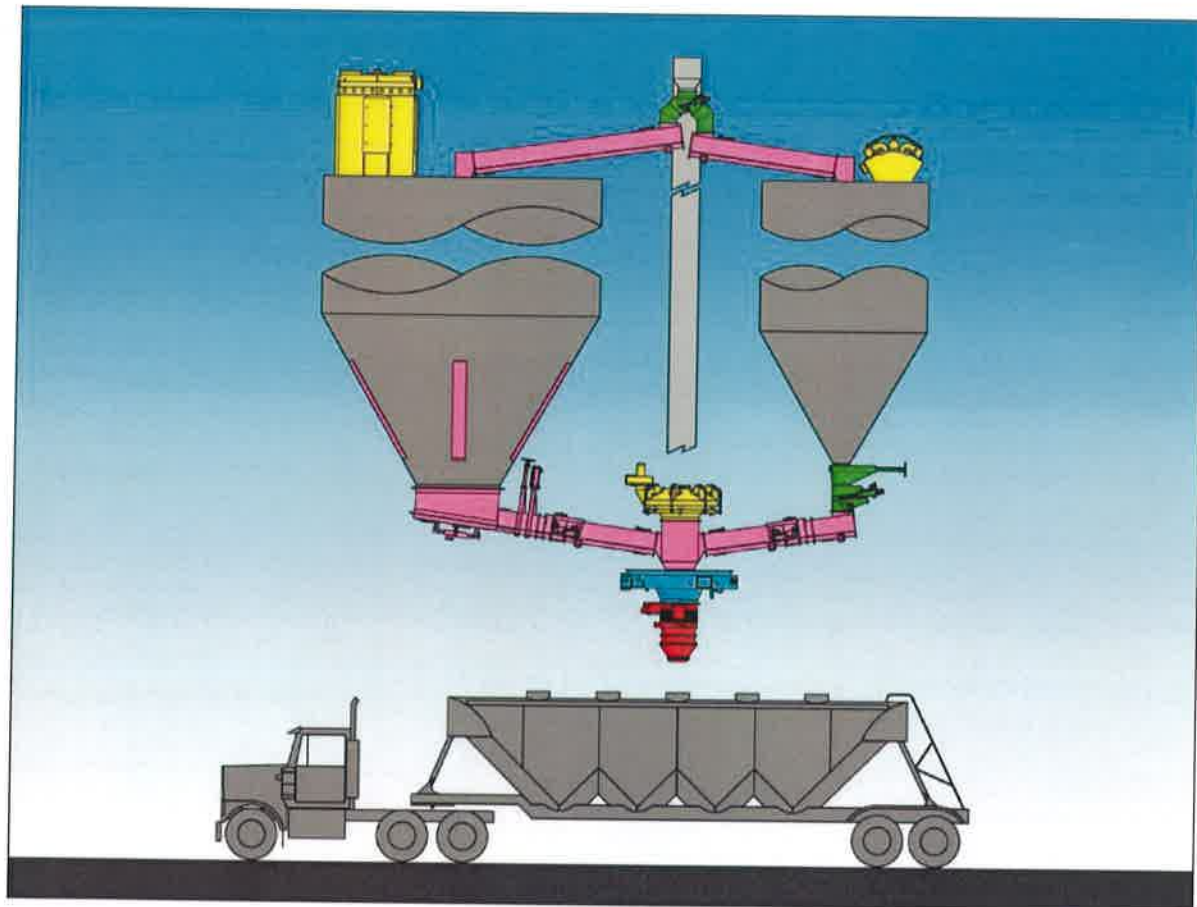
REQUEST A QUOTE (/SALES-SUPPORT/REQUEST-A-QUOTE/)



DUST CONTROL AND LOADING SYSTEMS
(<https://www.dclinc.com/>)



[\(HTTPS://WWW.DCLINC.COM\)](https://www.dclinc.com/) > [SYSTEMS \(HTTPS://WWW.DCLINC.COM/SYSTEMS/\)](https://www.dclinc.com/systems/) > TRUCK
LOADING



TRUCK LOADING

There are two major variables to truck loading, open and enclosed. The choice between the two is determined by what product you're loading and what type of truck. For example loading a tanker truck with cement varies from loading aggregates into a gravel train truck. The enclosed tanker already has a contained area and it's a matter of removing air inside the tanker that is displaced by the product being loaded. With an open style truck the Loading Spout must create its own containment. This is done by using a barrier skirt at the discharge of the Loading Spout. You must still remove the displaced air but the discharge skirt is a much smaller area than the inside of a tanker.

Providing a loading system to meet your needs encompasses moving product from your storage area (silo, dome, flat bottom storage) to the truck. A series of flow aids for your storage can be provided by DCL with our Fluidized Bin bottom or Fluidized Air Pads. The next critical component is the control valves. Whether it is maintenance, complete on/off, or portioning flow control we offer the complete line. Should you need to divert flow we also offer diverters and triverters. Actual conveying of material can be done with Air gravity conveyors (airslide) for powders or drag, screw or belt conveyors for other materials. DCL manufactures the Air Gravity conveyors but for other choices we have close partnerships with manufactures in the industry. Loading systems require dust control. Achieved by In-line collectors (CFM – compact filter modules) or bag house style collectors. Both offered and produced by DCL. Loading Spout Positioners provide flexibility and efficiency to your load out system. The Positioner moves the Loading Spout into the operators' desired location. This works well to improve the speed of the operation by eliminating the need to re-spot the truck under the spout. The final component is the Loading Spout. This component bridges the distance between the conveyor discharge and the vehicle being loaded. The Loading Spout is where DCL expertise really shines. As the largest supplier of Loading Spouts in North America we have created a reputation of knowing application and designing systems to accommodate the toughest challenges. Each terminal is unique in its layout, functionality, and product being loaded. Low height, multiple sizes of vehicles, and hatch location of vehicles require a supplier that understands what it takes to meet you goals. Remember DCL offers full controls of load out systems and can offer any degree of automation you desire. Ask about our SmartLoader and learn ways you can outperform your competitors.

MODEL	EST WGT	# FILTER	CLOTH AREA	FILTER LGTH	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S
CFM155	520 LB*	4	156 SQ FT	18.00	64.00	24.00	12	26.88	22.13	30.00	0.56	1.00	1.13	14.00	16.00	19.94	-	23.75	31.06	3	17.31
CFM195	520 LB*	5	195 SQ FT	18.00	64.00	24.00	12	26.88	22.13	30.00	0.56	1.00	1.13	14.00	16.00	19.94	-	23.75	31.06	3	17.31
CFM270	700 LB*	7	273 SQ FT	18.00	68.00	32.00	12	34.00	30.00	30.00	0.56	1.00	1.13	14.00	16.00	26.81	22.50	-	-	4	17.38
CFM330	700 LB*	7	329 SQ FT	22.00	68.00	32.00	12	34.00	30.00	30.00	0.56	1.00	1.13	14.00	16.00	26.81	22.50	-	-	4	17.38
CFM470	1600 LB*	10	470 SQ FT	22.00	90.00	38.00	16	40.00	45.00	43.00	0.69	3.00	2.00	16.00	18.00	31.81	31.81	-	-	4	22.75
CFM660	1600 LB*	14	658 SQ FT	22.00	100.00	C/F	C/F	C/F	C/F	50.00	0.75	7.00	2.00	C/F	C/F	C/F	C/F	C/F	C/F	C/F	C/F

GENERAL NOTES:

ALL INDUSTRIAL VOLTAGES AVAILABLE FOR ELECTRICAL COMPONENTS.

PRIMING OF ELECTRICAL COMPONENTS TO CFM HOUSING JUNCTION BOX OPTIONAL.

ELECTRICAL ENCLOSURES NEMA 4 STANDARD. NEMA 4X, 7, AND 9 OPTIONAL.

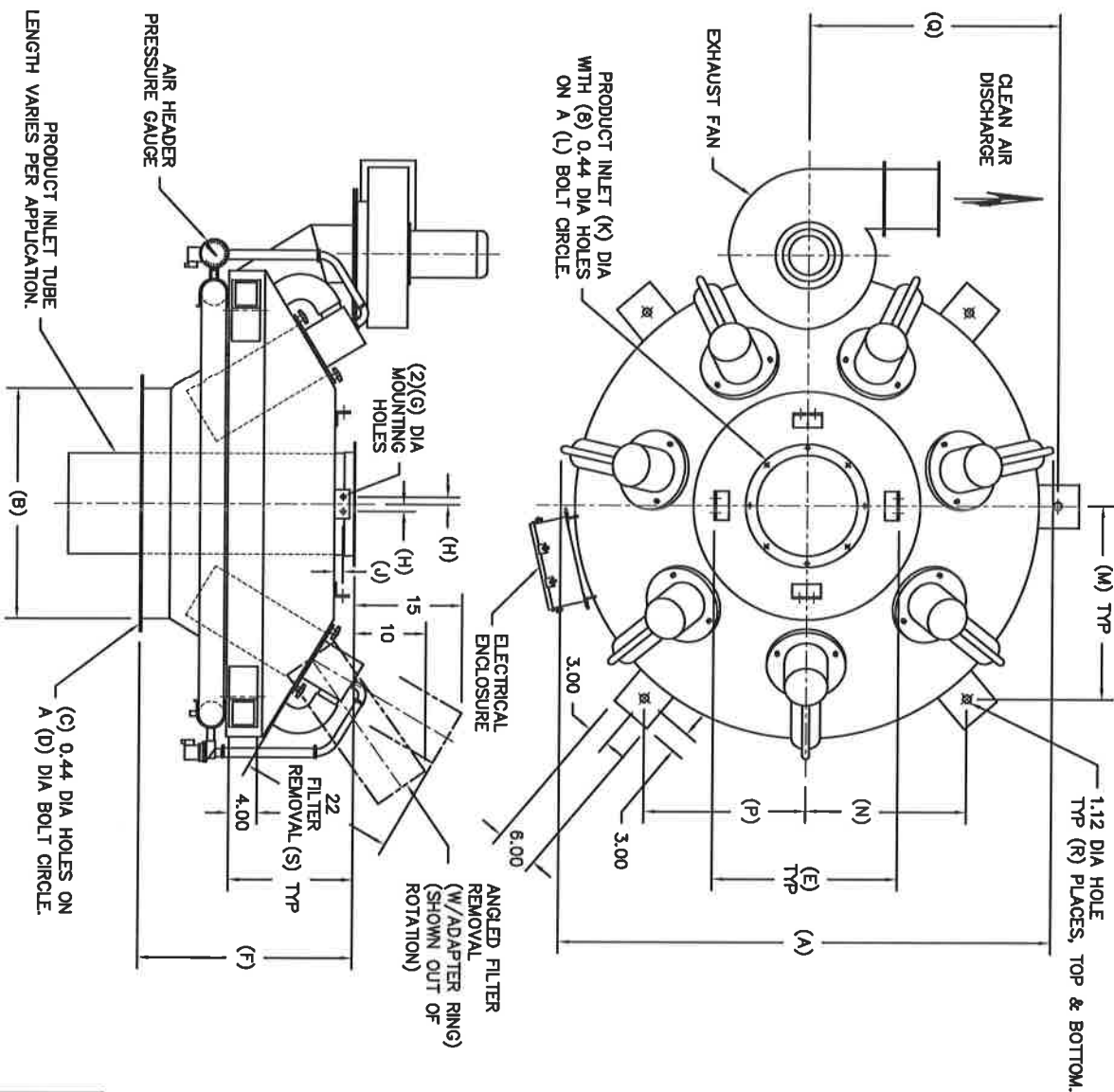
METAL SURFACES ARE POWER TOOL CLEANED, PRIMED, AND FINISHED WITH INDUSTRIAL ENAMEL.

AIR REQUIREMENTS FOR COMPRESSED AIR HEADER ARE (16) CFM @ (80-100) PSI.

SPECIFICATIONS AND/OR DIMENSIONAL DATA ARE SUBJECT TO CHANGE. CONSULT DCL FOR CERTIFIED DRAWINGS.

C/F = CONSULT FACTORY

*ESTIMATED WEIGHTS DO NOT INCLUDE EXHAUST FAN, OPTIONAL EQUIPMENT OR ELECTRICAL COMPONENTS.



REV	DATE	BY
A	10-18-97	JMM
B	08-28-00	JMM
C	04-23-02	JMM
D	02-20-12	TLC

DCL		SPECIALISTS IN ADVANCED DESIGN	
TOLERANCES UNLESS OTHERWISE SPECIFIED		DIMENSIONS UNLESS OTHERWISE SPECIFIED	
FRACTIONS 1/8" MIN		DECIMALS 0.0005	
UNLESS OTHERWISE SPECIFIED		UNLESS OTHERWISE SPECIFIED	
CHECKED THE ENG		DATE 03-04-97	
TITLE		CFM COMPACT FILTER MODULE	
DCL		CFM-10001	

DATA SHEET



TL-DCL – Pleated Filter Element

Top load style pleated filter element (PFE).*

Unique, aerodynamically designed high-flow orifice develops 30% more cleaning energy.**

Fits DCL Compact Filter Module (CFM) and Ventilation Module (VMV & VML) designs.

Standard Configuration

- Molded top boot and bottom puck made from bright white soft polyurethane eliminates metal end caps, making the filter intrinsically safe, with no possibility of isolated metal components.
- Molded top features a unique molded in place gasket design that eliminates separate glued-in-place gaskets.
- Polyurethane, polypropylene core and polyester components are safe for food contact (Per FDA 21 CFR 177).
- 3.89" (99-mm) inner core diameter
- 1.89" (48-mm) nominal pleat depth
- Standard Pleat Count – 90 Pleats
- Polypropylene Inner Core
- Standard design rated to 180°F operating temperature.

Configuration Options

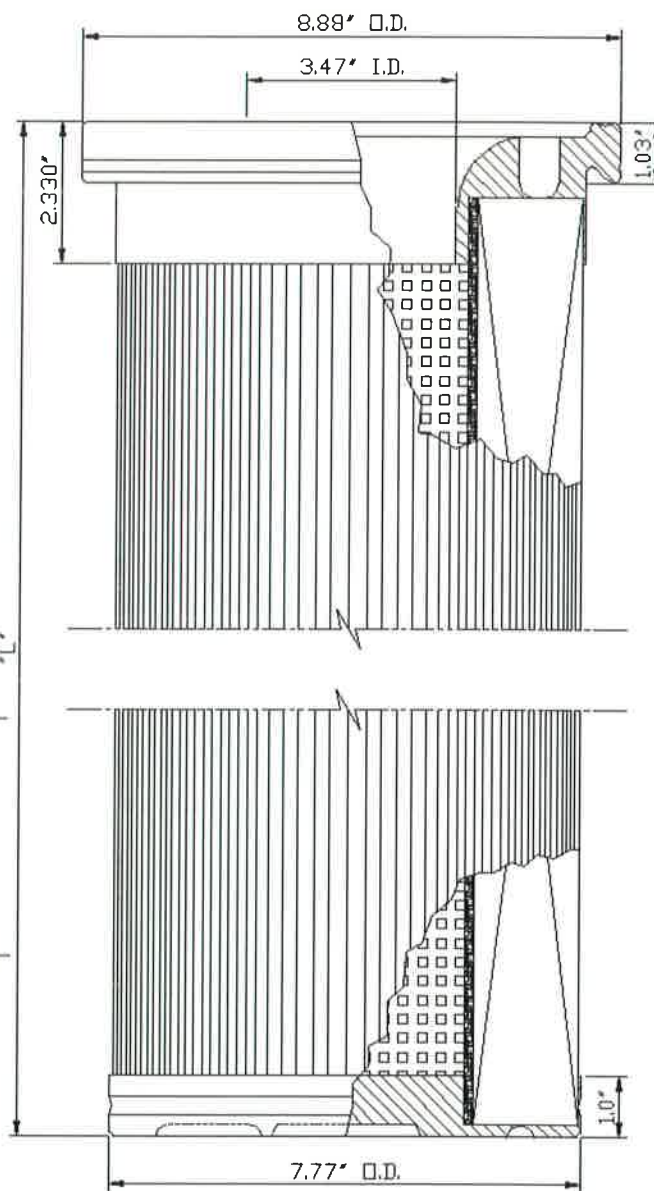
- Free Flow bottom design** available in 45 pleat count
- Galvanized and SS Perforated Metal (Spiral Formed) – For temperatures > 180°F and for high pressure / vacuum applications.
- Grounded designs (with conductive media, metal core and stainless steel ground wire).

Filter Media

- Base filter media: 100% spunbond polyester (SBPE)
- Filtration Efficiency: > 99.9 % for particle size range between 0.2 μ - 2.0 μ - BGIA Dust Class "M" rating
- Weight: 8.0 oz/yd² (260 g/m²)
- Permeability: 15-30 acfm Frazier permeability at 0.5" w.g. dP
- Mullenburst Strength: 350 psi

Media

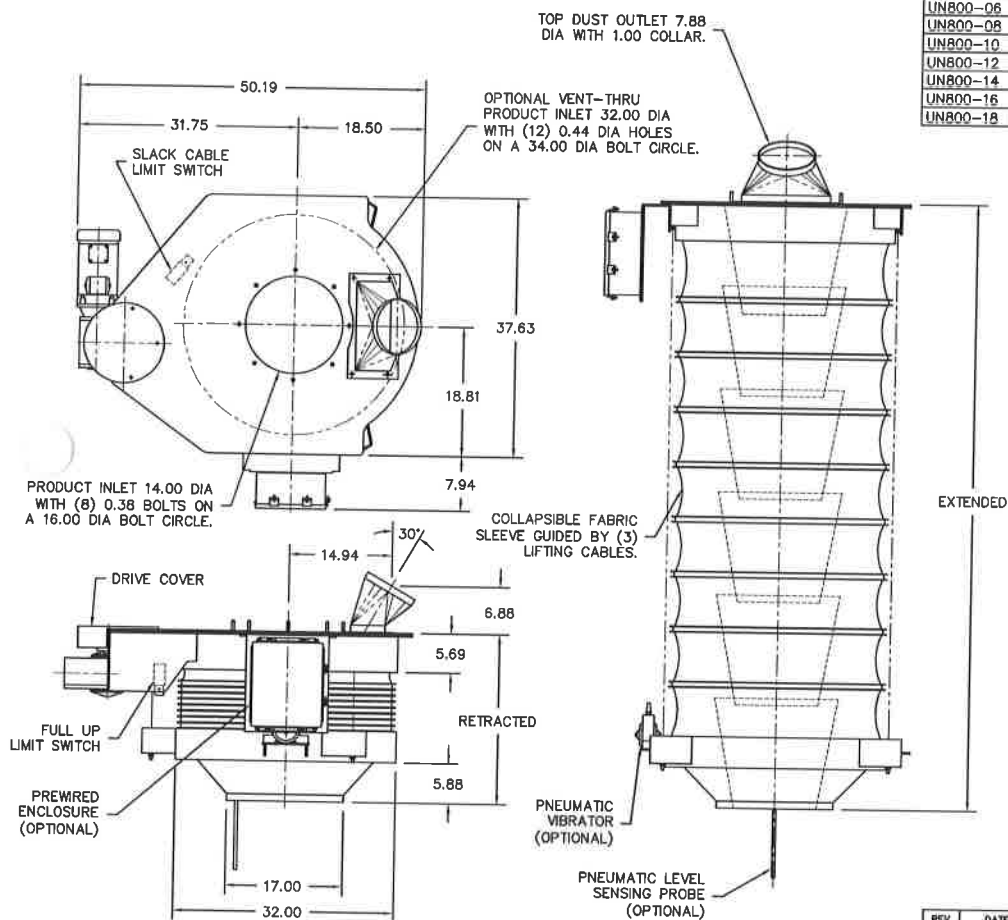
Designation	Media Description
FM0103	100% spunbond polyester (SBPE)
FM0105	100% SBPE with hydrophobic & oleophobic finish
FM0109	100% SBPE with conductive grid
FM0203	100% SBPE with ePTFE membrane
FM0209	100% SBPE with conductive grid & ePTFE membrane



Overall Length "L"	Filter Area (sf) @ 90 pleats	No. of Straps
18.0"	39.0	1
22.0"	48.4	1
26.0"	57.8	1

*U.S. Patent No. D 626,208 & Patent Pending

**Confirmed by Independent 3rd party testing



MODEL	TRAVEL	RETR	EXTD	URE WGT	STL WGT	URE HP	STL HP
UN800-02	24.00	18.75	42.75	543 LB	586 LB	1 HP/B	1 HP/B
UN800-04	48.00	21.50	69.50	576 LB	662 LB	1 HP/B	1 HP/B
UN800-06	72.00	24.50	96.50	609 LB	738 LB	1 HP/B	1 HP/B
UN800-08	96.00	27.00	123.00	646 LB	817 LB	1 HP/B	1 HP/B
UN800-10	120.00	28.38	148.38	673 LB	867 LB	1 HP/B	1.5 HP/B
UN800-12	144.00	31.13	175.13	706 LB	943 LB	1 HP/B	1.5 HP/B
UN800-14	168.00	33.88	201.88	743 LB	1022 LB	1 HP/B	2 HP/B
UN800-16	192.00	36.63	228.63	777 LB	1099 LB	1 HP/B	1.5 HP/B
UN800-18	216.00	38.00	254.00	804 LB	1147 LB	1.5 HP/B	1.5 HP/B

GENERAL NOTES:

LOADING CAPACITY: 450 CFM
AVERAGE AIR WITHDRAWAL: 1400 TO 1800 CFM
LIFTING SPEED: 16 FPM AVG

ALL INDUSTRIAL VOLTAGES ARE AVAILABLE FOR ELECTRICAL COMPONENTS.

PREWIRING OF ELECTRICAL COMPONENTS TO SPOUT FRAME JUNCTION BOX OPTIONAL.

ELECTRICAL ENCLOSURES NEMA 4 STANDARD. NEMA 4X, 7, AND 9 OPTIONAL.

COLLAPSIBLE FABRIC SLEEVE CAN BE CONSTRUCTED OF URETHANE/NYLON, HYPALON/NYLON, OR A NUMBER OF OTHER FABRICS. SLEEVES COME STANDARD WITH ALUMINUM OUTER AND INNER RINGS.

METAL SURFACES ARE POWER TOOL CLEANED, PRIMED, AND FINISHED WITH INDUSTRIAL ENAMEL.

LOADING CAPACITY LISTED IS APPROXIMATE AND BASED ON FREE FLOWING PRODUCTS. CONSULT DCL FOR ACTUAL REQUIREMENTS.

AIR WITHDRAWAL REQUIREMENTS ARE AVERAGE. CONSULT DCL FOR FINAL RECOMMENDATIONS.

CONE CONSTRUCTION NOTES: CONTAINED INNER DESIGN STANDARD WITH 0.13 AR STEEL, AND 0.13 304 OR 316 STAINLESS STEEL. OTHER MATERIALS AVAILABLE TO SUIT APPLICATION.

SPECIFICATIONS AND/OR DIMENSIONAL DATA ARE SUBJECT TO CHANGE. CONSULT DCL FOR CERTIFIED DRAWINGS.

OPTIONS:

150# INLET FLANGE. ADDS 3.00 TO RETRACTED HEIGHT.

LEVEL SENSORS; TILT PROBE, RF PROBE, CAPACITANCE PROBE, PNEUMATIC PROBE.

PNEUMATIC VIBRATOR KIT REQUIRES (40) CFM @ (80) PSI.

REV	DATE	BY			
D	09-25-07	JNM			
C	10-06-03	JNM			
B	04-23-02	JNM			
A	09-26-00	JNM			

DCL

SPECIALISTS IN
ADVANCED DESIGN
LOADING SYSTEMS

P.O. BOX 135
CHILLIKOT, MICHIGAN 49725
(201) 547-2600

TOLERANCES UNLESS OTHERWISE SPECIFIED
FRACTIONAL 1/16" DECIMALS ANGULAR 1/2°

DRAWN BY: JNM
CHECKED BY: ENG
DATE: 01-04-98

FILE UN800 LOADING SPOUT (EV STYLE)

DRAWING NO: UN800-10001

Exhibit 5

Emissions Calculations

Summary of Emission Points

WALAN, LLC - Specialty Construction Materials
501 Christiana Avenue, Wilmington, DE 19801
Summary of Emission Points

Emission Point ⁽¹⁾	Description	Emissions ⁽²⁾	Process	Maximum / Projected Annual Throughput (Tons) ⁽³⁾	% of Total Throughput
EP1	Drop from trucks to stockpile (fugitive Emissions)	PM	Handling	262,800 / 150,000	100%
EP2	Drop from front end loader (FEL) into feed hopper (fugitive emissions)	PM	Handling		100%
EP3	Grinding mill (stack emissions)	PM, PM10, PM2.5	Grinding		100%
	Mill integral dryer (stack emissions)	PM2.5, NOx, SOx, CO, VOC	Drying		100%
EP4	Baghouses on two storage silos (stack emissions)	PM10, PM2.5	Storage		100%
EP5	Baghouses on two dustless loadout chutes (stack emissions)	PM10, PM2.5	Loadout		100%

Notes:

- (1) See the process flow diagram in Exhibit 2.
- (2) An estimate of the particle size of the GBFS shows that the particle sizes range from approximately 200 microns to 4750 microns. Therefore, the emissions from the initial materials handling operations will be expressed as PM only.
- (3) Maximum throughput. For operational flexibility, the facility could process GBFS three shifts/day, 365 days/year (8760 hours/year). The actual annual throughput is expected to be less.

Emissions Calculations

WALAN, LLC - Specialty Construction Materials PM Emissions from GBFS Handling Operations

GBFS HANDLING

EPI - Drops from trucks to stockpile											
Pollutant	Silt Content ^(a) (%)	Moisture Content ^(b) (%)	k ^(c)	U ^(d) (mph)	Emission Factor ^(e) (lb/ton)	Maximum Hourly Throughput ^(f) (ton/hr)	Hourly Emissions (uncontrolled) (lb/hr)	Hourly Emissions (controlled) (lb/hr)	PTE ^(g) (lb/year)	PTE (tons/yr) ^(g)	Expected Emissions (tons/yr) ^(h)
PM	N/A	9	0.74	10.8400	7.88E-04	30	2.365E-02	2.365E-02	2.072E+02	1.036E-01	5.913E-02

EP2 - Drops from stockpile to feed hopper											
Pollutant	Silt Content ^(a) (%)	Moisture Content ^(b) (%)	k ^(c)	U ^(d) (mph)	Emission Factor ^(e) (lb/ton)	Maximum Hourly Throughput ^(f) (ton/hr)	Hourly Emissions (uncontrolled) (lb/hr)	Hourly Emissions (controlled) (lb/hr)	PTE ^(g) (lb/year)	PTE (tons/yr) ^(g)	Expected Emissions (tons/yr) ^(h)
PM	N/A	9	0.74	10.8400	7.88E-04	30	2.365E-02	2.365E-02	2.072E+02	1.036E-01	5.913E-02

Total Emissions =		Hourly Emissions (uncontrolled) (lb/hr)	Hourly Emissions (controlled) (lb/hr)	PTE (tons/yr) ^(g)	Expected Emissions (tons/yr) ^(h)
		0.047	0.047	0.207	0.118

Notes:

- Silt Content not provided as it is not utilized in the calculation.
- Estimated moisture content of salt.
- Average particle size diameter for PM < 30 microns for particle size multiplier (K).
- Mean wind speed (U) for Wilmington, DE fro USA.com
- Emission factor based on the equation below, detailed in in USEPA AP-42 Section 13.2.4 (Rev. 11/06).
- Assume rated throughput of GBFS grinding operation.
- PTE based on the facility operating 8760 hours/year.
- Expected emissions are based on a projected throughput of 150,000 tons/rolling 12-month period. To allow operational flexibility, the facility could operate anytime during the proposed two shifts, 7 days per week. The actual hours of operation will probably be less.

Maximum throughput = 262,800 tons/year
Projected throughput = 150,000 tons/year

Equation for Emissions from Drop Calculations

$$E = k (0.0032) \frac{(U/5)^{1.3}}{(M/2)^{1.4}}$$

where:

E = emission factor
k = particle size multiplier
U = mean wind speed (mph)
M = material moisture content (%)

WALAN, LLC - Specialty Construction Materials
Projected and PTE Emissions from Natural Gas Combustion - Drying of GBFS (EP3)

Equipment	Output	PM _{2.5} Emissions					
		Uncontrolled ¹	Controlled ²	CO Emissions ¹	NOx Emissions ¹	SOx Emissions ³	VOC Emissions ¹
Air Heating Unit (included as part of grinder)	7,240 scf/hr ³	7.6 lb/10 ⁶ MMtH ₃	0.0003 lb/hr	84 lb/10 ⁶ MMtH ₃	100 lb/10 ⁶ MMtH ₃	0.6 lb/10 ⁶ MMtH ₃	5.5 lb/10 ⁶ MMtH ₃
	5,000 hrs/yr (Projected) ⁴	0.138 tons/year	0.0007 tons/year	1,520 tons/year	1,810 tons/year	0.011 tons/year	0.100 tons/year
	8,760 hrs/yr (Maximum)	0.241 tons/year	0.0012 tons/year	2,664 tons/year	3,171 tons/year	0.019 tons/year	0.174 tons/year

Notes:

- (1) Emission factors from AP-42, Tables 1.4-1 and 1.4-2.
- (2) A 99.5% control efficiency for the baghouse is assumed.
- (3) Maximum firing rate of the natural gas fired burner used to dry the GBFS.
- (4) The projected hours of operation assume a processing rate of 30 tons/hour and 150,000 tons/year.

WALAN, LLC - Specialty Construction Materials
PM10 and PM2.5 Emissions from GBFS Grinding (EP3)

<u>Pollutant</u>	<u>Throughput</u> (tons/hour)	<u>Uncontrolled Emissions</u>		<u>Controlled Emissions</u>			
		<u>Emission Factor</u> (lbs/ton) ¹	<u>Emissions</u> (lbs/hour)	<u>Emission Factor</u> (lbs/ton) ²	<u>Emissions</u> (lbs/hour)	<u>PTE Emissions</u> (tons/year)	<u>Projected Emissions</u> (tons/year)
PM	30	8.08	242.4	0.0404	1.212	5.309	3.030
PM-10	30	6.78	203.4	0.0339	1.017	4.454	2.543
PM-2.5	30	2.42	72.6	0.0121	0.363	1.590	0.908

Notes:

- (1) Emission factors determined by using the controlled emission factors and assuming a baghouse control efficiency of 99.5%.
- (2) Emission factor from AP-42, Table 11.19.2-4
- (3) PTE based upon 8760 hours of operation/year.
- (4) Projected emissions based upon 5000 hours/year of operation.

WALAN, LLC - Specialty Construction Materials
PM10 and PM2.5 Emissions from GGBFS Storage and Loadout (EP4 and EP5)

EP4 - Loading of GGBFS into Storage Silos (Baghouse Controlled)							
Uncontrolled Emissions				Controlled Emissions			
<u>Pollutant</u>	<u>Throughput (tons/hour)</u>	<u>Emission Factor (lbs/ton)¹</u>	<u>Emissions (lbs/hour)</u>	<u>Emission Factor (lbs/ton)¹</u>	<u>Emissions (lbs/hour)</u>	<u>PTE Emissions (tons/year)²</u>	<u>Projected Emissions (tons/year)³</u>
PM	30	0.73	21.9	0.00099	0.0297	0.130	0.074
PM-10	30	0.47	14.1	0.00034	0.0102	0.045	0.026

EP5 - Loading of GGBFS into Enclosed Trucks (Cartridge Filter Controlled)							
Uncontrolled Emissions				Controlled Emissions			
Pollutant	Throughput (tons/hour)	Emission Factor (lbs/ton) ¹	Emissions (lbs/hour)	Emission Factor (lbs/ton) ¹	Emissions (lbs/hour)	PTE Emissions (tons/year) ²	Projected Emissions (tons/year) ³
PM	30	0.73	21.9	0.00099	0.0297	0.130	0.074
PM-10	30	0.47	14.1	0.00034	0.0102	0.045	0.026

TOTAL EMISSIONS				
<u>Pollutant</u>	<u>Uncontrolled Emissions (lbs/hour)</u>	<u>Controlled Emissions (lbs/hour)</u>	<u>PTE Emissions (tons/year)²</u>	<u>Projected Emissions (tons/year)³</u>
PM	43.8	0.059	0.260	0.149
PM-10	28.2	0.020	0.089	0.051

Notes:

- (1) Emission factor from AP-42, Table 11.12-2. Emission factors for concrete batching - cement silo loading. The loading of the GGBFS silos and the enclosed trucks is a similar process as any dust contained in the silos or trucks is captured and vented through baghouses.
- (2) PTE based upon 8760 hours of operation/year.
- (3) Projected emissions based upon 5000 hours/year of operation.

Table 11.19.2-3 (Metric Units). EMISSION FACTORS FOR PULVERIZED MINERAL PROCESSING OPERATIONS ^a

Source ^b	Total Particulate Matter	EMISSION FACTOR RATING	Total PM-10	EMISSION FACTOR RATING	Total PM-2.5	EMISSION FACTOR RATING
Grinding (Dry) with Fabric Filter Control (SCC 3-05-038-11)	0.0202	D	0.0169	B	0.0060	B
Classifiers (Dry) with Fabric Filter Control (SCC 3-05-038-12)	0.0112	E	0.0052	E	0.0020	E
Flash Drying with Fabric Filter Control (SCC 3-05-038-35)	0.0134	C	0.0073	C	0.0042	C
Product Storage with Fabric Filter Control (SCC 3-05-38-13)	0.0055	E	0.0008	E	0.0003	E

a. Emission factors represent controlled emissions unless noted. Emission factors are in kg/Mg of material throughput.

b. Data from references 16 through 23

Table 11.19.2-4 (English Units). EMISSION FACTORS FOR PULVERIZED MINERAL PROCESSING OPERATIONS ^a

Source ^b	Total Particulate Matter	EMISSION FACTOR RATING	Total PM-10	EMISSION FACTOR RATING	Total PM-2.5	EMISSION FACTOR RATING
Grinding (Dry) with Fabric Filter Control (SCC 3-05-038-11)	0.0404	D	0.0339	B	0.0121	B
Classifiers (Dry) with Fabric Filter Control (SCC 3-05-038-12)	0.0225	E	0.0104	E	0.0041	E
Flash Drying with Fabric Filter Control (SCC 3-05-038-35)	0.0268	C	0.0146	C	0.0083	C
Product Storage with Fabric Filter Control (SCC 3-05-038-13)	0.0099	E	0.0016	E	0.0006	E

a. Emission factors represent controlled emissions unless noted. Emission factors are in lb/Ton of material throughput.

b. Data from references 16 through 23

TABLE 11.12-2 (ENGLISH UNITS)
EMISSION FACTORS FOR CONCRETE BATCHING ^a

Source (SCC)	Uncontrolled				Controlled			
	Total PM	Emission Factor Rating	Total PM ₁₀	Emission Factor Rating	Total PM	Emission Factor Rating	Total PM ₁₀	Emission Factor Rating
Aggregate transfer ^b (3-05-011-04,-21,23)	0.0069	D	0.0033	D	ND		ND	
Sand transfer ^b (3-05-011-05,22,24)	0.0021	D	0.00099	D	ND		ND	
Cement unloading to elevated storage silo (pneumatic) ^c (3-05-011-07)	0.73	E	0.47	E	0.00099	D	0.00034	D
Cement supplement unloading to elevated storage silo (pneumatic) ^d (3-05-011-17)	3.14	E	1.10	E	0.0089	D	0.0049	E
Weigh hopper loading ^e (3-05-011-08)	0.0048	D	0.0028	D	ND		ND	
Mixer loading (central mix) ^f (3-05-011-09)	0.572 or Eqn. 11.12-1	B	0.156 or Eqn. 11.12-1	B	0.0184 or Eqn. 11.12-1	B	0.0055 or Eqn. 11.12-1	B
Truck loading (truck mix) ^g (3-05-011-10)	1.118	B	0.310	B	0.098 or Eqn. 11.12-1	B	0.0263 or Eqn. 11.12-1	B
Vehicle traffic (paved roads)	See AP-42 Section 13.2.1, Paved Roads							
Vehicle traffic (unpaved roads)	See AP-42 Section 13.2.2, Unpaved Roads							
Wind erosion from aggregate and sand storage piles	See AP-42 Section 13.2.5, Industrial Wind Erosion							

Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO)
FROM NATURAL GAS COMBUSTION^a

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO _x ^b		CO	
	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS) ^c	280	A	84	B
Uncontrolled (Post-NSPS) ^c	190	A	84	B
Controlled - Low NO _x burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (≤100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	100	B	84	B
Controlled - Low NO _x burners	50	D	84	B
Controlled - Low NO _x burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (≤0.3) [No SCC]				
Uncontrolled	94	B	40	B

^a Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from lb/10⁶ scf to kg/10⁶ m³, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from lb/10⁶ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

^b Expressed as NO₂. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_x emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_x emission factor.

^c NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION^a

Pollutant	Emission Factor (lb/10 ⁶ scf)	Emission Factor Rating
CO ₂ ^b	120,000	A
Lead	0.0005	D
N ₂ O (Uncontrolled)	2.2	E
N ₂ O (Controlled-low-NO _x burner)	0.64	E
PM (Total) ^c	7.6	D
PM (Condensable) ^c	5.7	D
PM (Filterable) ^c	1.9	B
SO ₂ ^d	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

^a Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from lb/10⁶ scf to kg/10⁶ m³, multiply by 16. To convert from lb/10⁶ scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds.

VOC = Volatile Organic Compounds.

^b Based on approximately 100% conversion of fuel carbon to CO₂. CO₂[lb/10⁶ scf] = (3.67) (CON) (C)(D), where CON = fractional conversion of fuel carbon to CO₂, C = carbon content of fuel by weight (0.76), and D = density of fuel, 4.2x10⁴ lb/10⁶ scf.

^c All PM (total, condensable, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM₁₀, PM_{2.5} or PM₁ emissions. Total PM is the sum of the filterable PM and condensable PM. Condensable PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

^d Based on 100% conversion of fuel sulfur to SO₂.

Assumes sulfur content is natural gas of 2,000 grains/10⁶ scf. The SO₂ emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO₂ emission factor by the ratio of the site-specific sulfur content (grains/10⁶ scf) to 2,000 grains/10⁶ scf.

Summary of Emissions

WALAN, LLC - SPECIALTY CONSTRUCTION MATERIALS SUMMARY OF EMISSIONS

Operation	PM			PM10			PM2.5			SOx		
	Uncontrolled (lb/hr)	Controlled (lb/hr)	Annual PTE (ton/yr)	Projected Emissions (ton/yr)	Uncontrolled (lb/hr)	Controlled (lb/hr)	Annual PTE (ton/yr)	Projected Emissions (ton/yr)	Uncontrolled (lb/hr)	Controlled (lb/hr)	Annual PTE (ton/yr)	Projected Emissions (ton/yr)
GBFS Handling (EP1, EP2)	0.047	0.047	0.207	0.118								
GBFS Drying (EP3)									0.055	0.0003	0.0007	0.0012
GBFS Grinding (EP3)	242.400	1.212	5.309	3.030	203.400	1.017	4.454	2.543	72.600	0.363	1.590	0.208
GGBFS Storage and Loadout (EP4, EP5)	43.800	0.059	0.260	0.149	28.200	0.020	0.089	0.051				
Total Emissions	286.247	1.319	5.776	3.297	231.600	1.037	4.544	2.594	72.655	0.363	1.591	0.909
									0.004	0.004	0.019	0.011

Operation	NOx			CO			VOC					
	Uncontrolled (lb/hr)	Controlled (lb/hr)	Annual PTE (ton/yr)	Projected Emissions (ton/yr)	Uncontrolled (lb/hr)	Controlled (lb/hr)	Annual PTE (ton/yr)	Projected Emissions (ton/yr)	Uncontrolled (lb/hr)	Controlled (lb/hr)	Annual PTE (ton/yr)	Projected Emissions (ton/yr)
GBFS Handling (EP1, EP2)												
GBFS Drying (EP3)	0.7240	0.7240	3.1711	1.8100	0.6082	0.6082	2.6637	1.5204	0.0398	0.0398	0.1744	0.0996
GBFS Grinding (EP3)												
GGBFS Storage and Loadout (EP4, EP5)												
Total Emissions	0.724	0.724	3.171	1.810	0.608	0.608	2.664	1.520	0.040	0.040	0.174	0.100

Exhibit 6

Zoning Information

• **Sec. 48-247. - M-2 districts.**

(a) *Purpose.* The M-2 district, general industrial, is designed to provide areas where large-scale industries can find suitable sites served by rail, water and highway transportation. Only a few specified heavy industries which might create objectionable conditions in the residential and commercial areas of the city are excluded. No new residential development is permitted.

(b) *Permitted uses.* Subject to the prohibitions and controls specified in the following subsections of this section, all uses not otherwise prohibited by law are permitted in any M-2 district, subject to the off-street parking and loading requirements of article X of this chapter. Specifically permitted in M-2 districts are consumer recycling collection centers, without restriction of hours of operation. Specifically permitted are neighborhood police stations. Use shall be subject to the limitation on hours of operation contained in chapter 5 of this Code. Antenna use shall be subject to the conditions specified for such use under article XI, division 4 and any regulations promulgated in furtherance thereof.

(c) *Uses permitted under zoning board of adjustment approval.* The following uses are permitted if approved by the zoning board of adjustment as provided in article II, division 3 of this chapter, subject to the conditions specified below in each case:

(1) Ore smelting, blast furnace, coke oven, open hearth furnace, or Bessemer converter, as approved by the zoning board of adjustment as provided in article II, division 3 of this chapter, subject to the conditions specified below in each case:

a. No such industrial operation shall be established or maintained within 1,000 feet of the boundary of any residence district or commercial district;

b. The off-street parking and loading requirements of article X of this chapter and the protective controls of subsection (e) of this section are complied with; and

c. The proposed use will not seriously impair the value of nearby residential or commercial property, in the determination of which the direction of prevailing winds and the increased traffic on the street system may be considered.

(2) As special exception uses, the re-refining or recycling of used oil and any processes related and accessory thereto, provided that no such use or any part thereof shall be established or maintained within 1,000 feet of the boundary of any residential zoning district, or of any commercial zoning district, or of any commercial zoning district, or of any W-3, W-4 or O zoning district, and that any such use that is permitted shall be subject to the standards set forth in [section 48-246\(c\)](#).

(3) As special exception uses, composting and recycling facility as defined in [section 48-2](#), but subject to the approval of the zoning board of adjustment pursuant to [section 48-71](#).

(d) *Prohibited uses.* Except as provided elsewhere in this chapter, the following uses are specifically prohibited in an M-2 district:

(1) Residential uses other than a dwelling or apartment for a caretaker, watchman or janitor employed on the premises; hotel or motel, or emergency shelter for the homeless subject to the requirements specified for such use in C-2 districts under [section 48-193\(c\)\(18\)](#).

(2) Fertilizer manufacture from organic material or the compounding of such fertilizers on a commercial scale.

- (3) Fireworks or explosives manufacture.
- (4) Reduction of garbage, offal or dead animals on a commercial basis.
- (5) Refining of crude petroleum and processes related and accessory thereto.
- (6) Any waste incinerator, incinerator, or incinerator structure or facility.

(e) *Protective controls and standards of external effects.*

(1) *Protective controls.* In case of any permitted chemical process or any other manufacturing process that involves potential hazard from fire or explosion, or any activity involving the storage, including any underground storage, the use or the disposal of any hazardous substances, no permit shall be granted unless or until the zoning board of adjustment has determined that the applicant has employed technology reasonably available to each particular industry for the control of such potential hazards and all applications for permits shall be subject to the provisions of this Code and all applicable federal and state laws and regulations and the approval of the fire marshal. All such uses shall be reviewed by the environmental and technology advisory panel which shall advise the zoning board of adjustment prior to its hearing and decision.

(2) *Standards of external effects.* All manufacturing or heavy commercial uses to be hereafter established in general industrial manufacturing zoning districts shall be permitted only upon evidence of their ability to operate in compliance with current standards for sound, vibration, heat discharge, glare, odor, air quality and water quality, as applicable under federal or state laws and regulations and city ordinances. All such cases shall be reviewed by the zoning board of adjustment. The environmental and technology advisory panel shall advise the zoning board of adjustment prior to its hearing and decision.

(f) *Conditional uses.* The following uses are permitted, subject to the conditions specified below in each case:

(1) Adult entertainment establishments subject to the conditions specified for such uses in C-5 districts as provided in section 48-197(f).

(2) Billboards subject to the conditions specified for such use in C-5 districts as provided in section 48-197(f).

(Code 1968, § 48-33; Ord. No. 92-056(sub 1), § 1, 12-7-92; Ord. No. 93-010(sub 1), § 4, 7-8-93; Ord. No. 93-052(sub 1), § 3, 11-4-93; Ord. No. 99-010(sub 1), § 1, 5-6-99; Ord. No. 00-024(sub 2), § 1, 6-15-00; Ord. No. 01-046(sub 1), § 1, 11-1-01; Ord. No. 05-050(sub 4), § 8, 7-13-06; Ord. No. 07-070, § 1, 12-6-07; Ord. No. 10-041(sub 1), § 15, 10-7-10)

JAMES M. BAKER
MAYOR

City of Wilmington
Delaware



LOUIS L. REDDING - CITY/COUNTY BUILDING
800 FRENCH STREET
WILMINGTON, DELAWARE
19801 - 3537

February 13, 2007

Ms Lynn Carre
Alma, LLC
601 Christiana Avenue
Wilmington, Delaware 19801

Re: 601 Christiana Avenue

Dear Ms Carre:

Pursuant to your request, please be advised that the subject property is located in an area zoned M-2 and that the proposed use of the premises for the processing of yard waste material for a mulch product is permitted as a matter of right per Wilmington City Code section 48-247(b).

Further be advised that this approval does not authorize the manufacture or compounding of fertilizer and that the process is subject to compliance with the standards of external effects and storage requirements contained in Wilmington City Code sections 48-247(e) and 48-475, respectively.

If I can be of further assistance with this matter, please don't hesitate to call or write.

Respectfully,


James G. DiPinto
Zoning Manager
Department of Licenses & Inspection

Exhibit 7

Sample MSDS for GBFS



Material Safety Data Sheet
For
Ground Granulated Blast Furnace Slag
DURA SLAG™

Section I – Identity

Material Name: Ground Granulated Blast Furnace Slag (GGBS/GGBFS, or Slag Powder)
Trade Name: DURA SLAG™
Description: A ground powder made with an appropriate mill from a glassy granular material formed when molten iron blast furnace slag is rapidly chilled as by immersion in water.
CAS Reg. No.: N/A (Mixture)
Revision Date: November 2011
Contact Phone No.: (913) 451-8900
Manufacturer: Ash Grove Cement Company
11011 Cody
Overland Park, KS 66210

Section II – Ingredients Identity

Ingredient: Iron Blast-Furnace Slag		
<u>Components</u>	<u>CAS Number</u>	<u>Percentage (Approx.)</u>
Calcium oxide (CaO)	1305-78-8	30-50
Silicon dioxide (amorphous) (SiO ₂)	7631-86-9	30-40
Magnesium oxide (MgO)	1309-48-4	2-14
Alumina (Al ₂ O ₃)	1344-28-1	7-18
Iron oxide (Fe ₂ O ₃)	1309-37-1	0.1-1.8
Manganese oxide (MnO)	7439-96-5	0-1.0
Sulfur (S)	7704-34-9	0-2.0
Gypsum	13397-24-5	0-5

Slag is a nonmetallic byproduct of the production from the production of iron. Trace amounts of chemicals may be detected during chemical analysis. For example, slag may contain trace amounts of titanium oxide, chromium compounds, sulfur compounds, and other trace compounds.

Section III – Physical Data of Material

Boiling Point: N/A
Specific Gravity (H₂O=1): 2.80-2.95
Vapor Pressure (mm Hg): N/A
Melting Point: N/A
Vapor Density (AIR=1): N/A



Evaporation Rate:	N/A
Solubility in Water:	0.1-0.5%
Appearance & Odor:	Beige to white powder with traces of sulfur odor

Section IV – Fire and Explosion Hazard of Material

Flash Point:	N/A.
Extinguishing Media:	Use media suitable for surrounding fire.
Special Fire Fighting Procedures:	None.
Unusual Fire & Explosion Hazards:	None Reported.
Flammable Limits:	N/A.
Lower Explosive Limit:	N/A.
Upper Explosive Limits:	N/A.

Section V – Reactivity Data

Stability:	Stable. Keep dry until use. Slag may react with water resulting in slight release of heat, depending on the amount of calcium oxide present. Avoid contact with incompatible materials.
Conditions to Avoid (Stability):	Avoid moisture. Keep dry until used.
Incompatibility:	Slag is incompatible with acids, ammonium salts, and aluminum metal. Slag dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Slag reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.
Hazardous Decomposition/Byproducts:	Hydrogen sulfide may be released from moist or wet slag when heated. Respirable dust particles may be generated when the product is handled.
Hazardous Polymerization:	Will not occur. No conditions to avoid.

Section VI - Health Hazard Data

SECTION VI: HEALTH HAZARD DATA AND FIRST AID

EXPOSURE LIMITS:

Unless specified otherwise, limits are expressed as a time-weighted average (TWA) concentration for an 8-hour work shift of a 40-hour workweek.

Abbreviations:

ACGIH TLV: Threshold limit value of the American Conference of Governmental Industrial Hygienists (ACGIH). The Federal Mine Safety and Health Administration (MSHA) has adopted the TLVs established by ACGIH, as set forth in the 1973 edition of "TLVs Threshold Limit Values for Chemical Substances in Workroom Air Adopted by ACGIH for 1973".

IARC: International Agency for Research on Cancer

m.p.p.c.f.: Millions of particles per cubic foot of air, based on impinger samples counted by lightfield techniques; this is an antiquated form of measurement and is seldom used.

mg/m³: Milligrams of substance per cubic meter of air.

NIOSH REL: Recommended exposure limit of the National Institute for Occupational Safety and Health (NIOSH), expressed as a TWA concentration for up to a 10-hour workday during a 40- hour workweek.

NIOSH STEL: NIOSH Short Term Exposure Limit. This is a 15-minute TWA exposure that should not be exceeded at any time during a workday.

NTP: National Toxicology Program

OSHA ACC: Acceptable Ceiling Concentration set by the federal Occupational Safety and Health Administration (OSHA). Under OSHA regulations, an employee's exposure to an acceptable ceiling concentration shall not exceed at any time during an 8-hour shift the acceptable ceiling concentration limit given for the substance, except for a time period, and up to a concentration not exceeding the maximum duration and concentration allowed as specified under the subheading "acceptable maximum peak above ACC for an 8-hour shift". If no such subheading appears, then employee exposure shall never exceed the acceptable ceiling concentration limit.

OSHA PEL: Permissible exposure limit of OSHA.

Calcium Oxide (CaO)	OSHA PEL: 5 mg/m ³	ACGIH TLV: 5 mg/m ³	NIOSH REL: 2 mg/m ³
Amorphous Silicon Dioxide (SiO ₂)	OSHA PEL: 80 mg/m ³ ÷ % SiO ₂	ACGIH 1973 TLV: 20 m.p.p.c.f.; 2005 ACGIH TLV: withdrawn due to insufficient data	NIOSH REL: 6 mg/m ³
Magnesium Oxide (MgO)	OSHA PEL: (total particulate) 15 mg/m ³	ACGIH TLV: 10 mg/m ³	NIOSH REL: Not listed
Alumina (Al ₂ O ₃)	OSHA PEL: (respirable) 5 mg/m ³ , (total dust) 15 mg/m ³	ACGIH TLV: 10 mg/m ³	NIOSH REL: Not listed
Iron Oxide (Fe ₂ O ₃)	OSHA PEL: 10 mg/m ³	ACGIH TLV: 10 mg/m ³	NIOSH REL: 5 mg/m ³
Manganese Oxide (MnO)	OSHA ACC: 5 mg/m ³	ACGIH TLV: 5 mg/m ³	NIOSH STEL: 3 mg/m ³ ; NIOSH REL: 1 mg/m ³
Sulfur (S)	OSHA PEL: Not listed	ACGIH TLV: Not listed	NIOSH STEL: Not listed
Other Particulates	OSHA PEL: total particulate, not otherwise regulated) 15 mg/m ³ ; (respirable particulate, not otherwise regulated) 5 mg/m ³	ACGIH TLV (nuisance particulates) 10 mg/m ³ .	



HEALTH HAZARDS:

Primary Route(s) of Entry:

Inhalation: Yes **Skin:** Yes **Ingestion:** No or unlikely.

Acute:

Eye Contact: May cause immediate or delayed irritation to the eyes. Direct contact by larger amounts of material or splashes of wet material may cause effects ranging from moderate eye irritation to chemical burns and blindness. Eye exposures require immediate first aid to prevent significant damage to the eye.

Inhalation: Dusts may irritate the nose, throat, and respiratory tract. Coughing, sneezing, and shortness of breath may occur following exposures in excess of appropriate exposure limits.

Skin Contact: Exposure to dry material may cause drying of the skin with consequent mild irritation. Dry material contacting wet skin or exposure to moist or wet material may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (caustic) chemical burns.

Ingestion: Ingestion of large amounts may cause gastrointestinal irritation and blockage.

Chronic:

Inhalation: Inhalation of slag dust can cause inflammation of the lining of the nose.

Carcinogenicity: Slag is not listed as a carcinogen by IARC or NTP. However, slag may contain trace amounts of substances (such as hexavalent chromium) that are classified by IARC and NTP as carcinogens.

Eye Contact: Exposure to slag dust may cause inflammation of the cornea.

Skin Contact: Hypersensitive individuals may develop allergic dermatitis due to the potential presence of trace amounts of hexavalent chromium.

Signs & Symptoms of Exposure: Irritation of eyes, skin and/or respiratory system.

Medical Conditions Generally Aggravated by Exposure: Inhaling respirable dust may aggravate existing respiratory system disease(s) and/or dysfunctions such as emphysema or asthma. Exposure may aggravate existing skin and/or eye conditions.

EMERGENCY & FIRST AID PROCEDURES:

Eyes: Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops.

Inhalation: Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.

Skin: Wash with cool water and a pH-neutral soap or mild detergent intended for use on skin. Seek medical treatment in all cases of prolonged direct exposure to wet product or prolonged wet skin exposure to dry product.

Ingestion: Do not induce vomiting. If person is conscious, give large quantity of water. Get immediate medical attention.



Section VII - Preventive Measures

Ventilation: Local exhaust or general ventilation adequate to maintain exposures below appropriate exposure limits.

Other: Exposure levels should be monitored regularly. Exposure levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) ventilation, process enclosure, and enclosed employee workstations.

Respiratory Protection: When exposure levels exceed or are likely to exceed appropriate exposure limits, follow MSHA or OSHA regulations, as appropriate, for use of NIOSH-approved respiratory protection equipment.

Skin Protection: Protective gloves, shoes and protective clothing that are impervious to water should be worn to avoid contact with skin.

Eye Protection: Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessive (visible) dust conditions are present or anticipated. Contact lenses should not be worn when working with this product.

Hygiene: Periodically wash exposed skin with a pH-neutral soap. Wash again before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use. If clothing becomes saturated with wet material, it should be removed and replaced with clean, dry clothing.

Respirable dust may be generated during processing, handling, and storage. The personal protection and controls identified in Section VII of the MSDS should be applied as appropriate.

Keep product dry until used.

Do not store or handle near food and beverages or smoking materials.

The personal protection and controls identified in Section VII of the MSDS should be applied as appropriate.

Steps to be taken if material is released or spilled: Use dry clean-up methods that do not disperse dust into the air. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Wear appropriate personal protective equipment. Scrape up wet material and place in an appropriate container. Allow the material to "dry" before disposal.

Waste Disposal Method: Do not attempt to wash material down drains. Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.

Section VIII – Toxicological and Ecological Information

For questions regarding toxicological or ecological information, see the contact information in Section I.



Section IX – Disposal Considerations

Dispose of waste and containers in compliance with applicable federal, state, and local regulations

Section X – Transport Information

This material is not classified as a Hazardous Material under U.S. DOT or Canadian TDG regulations.

Section XI – Regulatory Information

OSHA/MSHA Hazard Communication	This material is considered to be a hazardous chemical by OSHA and MSHA and should be included in the employer's hazard communication program.
CERCLA/Superfund EPCRA SARA Title III	This product is not listed as a CERCLA hazardous substance. This product has been reviewed according to the EPA hazard categories promulgated under sections 311 and 312 under the Superfund Amendment and Reauthorization Act of 1986 and is considered a hazardous chemical and delayed health hazard.
EPCRA SARA Section 313	This product may contain substances subject to the reporting requirements of Section 313 of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.
RCRA	If discarded in its purchased form this product would not be a hazardous waste either by listing or characteristic. However, under RCRA, it is the responsibility of the user to determine at the time of disposal whether a material containing the product or derived from the product should be listed as a hazardous waste.
TSCA	Slag is exempt from reporting under the inventory update rule.
California Proposition 65	Hexavalent chromium is known by the State of California to cause cancer.
WHMIS/DSL	Products containing calcium oxide are classified as D2A, E and are subject to WHMIS requirements.

Ash Grove Cement understands the information contained herein is accurate as of the date shown thereon. Like any printed material, it may become out of date over time and thus, a printed copy should be considered current only as of the date of print. Material Safety Data Sheets (MSDSs) are intended for use in the workplace to meet right-to-know requirements, for employees to safely handle materials in their workplaces, and to dispose of them properly. Ash Grove Cement assumes no liability in connection with the use of the information herein which is not intended, and this MSDS should not be construed as legal advice or as insuring compliance with any other federal, state, or local laws or regulations. Any party using this product should review all such laws, rules, or regulations prior to use, including but not limited to US and Canada Federal, Provincial and State regulations.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE.

This product neither contains nor is directly manufactured with any controlled ozone depleting substances, Class I and II.

Exhibit 8

Fugitive Dust Control Plan

FUGITIVE DUST CONTROL PLAN

**Penn Mag, Inc. dba WALAN, LLC–Specialty Construction
Materials**

**Granulated Blast Furnace Slag Grinding Facility
501 Christiana Avenue
Wilmington, DE 19801**

December 2017

Prepared by:

Compliance Plus Services, Inc.
455 Business Center Drive, Suite 250
Horsham PA 19044
(215) 734-1414

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Figure 2:	Site Plan
Figure 3:	Process Flow Diagram GBFS Grinding Facility

1.0 INTRODUCTION

This Fugitive Dust Control Plan (the “Plan”) has been prepared for use at the WALAN, LLC-Specialty Construction Materials, (“WALAN”) Granulated Blast Furnace Slag Grinding Facility (“GBFS Grinding Facility”), to be located at 501 Christiana Avenue Wilmington, Delaware 19801. The Plan describes the GBFS Grinding Facility operations and the associated dust management practices that will be implemented to prevent and/or control potential fugitive particulate emissions that may be generated as a result of the facility’s operations involving the handling of GBFS.

The Plan includes the following:

- Dust management procedures that are used to minimize fugitive dust emissions;
- Use of a visual inspection program to monitor material handling areas and process equipment;
- Procedures for the implementation of corrective action measures to be taken in the event of excessive fugitive dust emissions; and
- A list of sources and areas to be monitored for visible emissions and accumulation of material in open areas.

2.0 GENERAL OVERVIEW OF OPERATIONS

Provided below is a general overview of the GBFS Grinding Facility operations as well as onsite features and equipment that are relevant to this Fugitive Dust Control Plan.

2.1 Facility Description

The GBFS Grinding Facility will be operated at the 501 Christiana Avenue Wilmington, Delaware location at the rear of the property. The facility is located in a heavily industrialized area near the Interstate 495 overpass, approximately 0.7 miles north of the Port of Wilmington.

A Site Location Map is included as Figure 1 that shows the general area where the facility is located. In addition, a Facility Site Plan is included as Figure 2. The Facility Site Plan depicts the location of the facility’s operating areas including the GBFS stockpiles, feed hopper, grinding operation, storage silos and loadout area. The onsite roadways shown on the Facility Site Plan are utilized for truck traffic.

2.2 Description of Operations

The Facility will accept GBFS by truck from a ship unloading operation. The operation will be seasonal and 8-24 truck per day will transport GBFS to the facility. The GBFS received will be stockpiled and then placed in the feed hopper servicing the grinding operation. The GBFS will be conveyed to a bucket elevator and then fed to the grinder which will grind and dry the GBFS. Once processed through the grinder, the ground GBFS (GGBFS) will be conveyed via a bucket elevator to two (2) 1,100 ton silos for storage and eventual loadout into enclosed trucks. The facility is expected to process up to 150,000 tons of GBFS per year. A process flow diagram is shown in Figure 3.

The GGBFS product will be top loaded into enclosed trucks through the use of dustless loadout chutes. PM emissions will be controlled by cartridge filters which are used to capture any dust displaced from the enclosed trucks. The truck loadout area under the silos will be enclosed to help prevent any fugitive dust from escaping to the atmosphere.

As shown in Figure 2, truck traffic will enter the facility on the north end of the property and, when delivering material, will proceed to the stockpile areas or, when loading out the finished product, will proceed to the silo storage area for loadout.

3.0 DUST EMISSIONS SOURCES/FACTORS

Potential dust emission sources and the factors that can influence dust emissions at the facility are presented in this section. Sources of dust are primarily limited to outdoor emissions. Outdoor fugitive dust emissions are defined as those emissions occurring outside the buildings and not associated with a stack (point) discharge. The potential dust emission sources and factors that are addressed for this facility include:

- On-site Roadways
- Unloading of Transport Trucks
- GBFS Stockpiles
- Feed hopper/Conveyor/Transfer System
- Weather Conditions
- Moisture Content of the GBFS and Particle Size

3.1 On-site Roadways

The on-site roadways will consist of both paved and unpaved areas. Paved and unpaved roadways can generate fugitive dust from vehicle traffic that disturbs

fine particulate matter deposited on the paved surface, causing the particles to become airborne. Sources of potential dust from paved and unpaved surfaces at the facility include: (1) tracking of mud and dirt from unpaved surfaces; (2) spillage of GBFS onto the road surfaces; and (3) deposition of dust from other sources, on- and off-site. Sources of dust from paved and unpaved surfaces are mainly due to truck traffic and equipment movements. Dust can be generated from material that falls off the trucks entering and exiting the facility.

Due to the highly industrialized location of the facility and paved public roads at the entrance to the facility, it is expected that the trucks entering the facility will not be tracking mud or silt/dirt onto the site. Additionally, the GBFS Grinding Facility's interior traffic management controls are intended to minimize the truck and equipment cross traffic and avoid drag-out from areas where GBFS is stored and loaded.

The number of trucks entering the facility and the truck travel speed while on-site will influence the amount of dust generated at the site.

3.2 Unloading of Transport Trucks

As mentioned above, GBFS will be transported from the Port of Wilmington to the GBFS stockpile areas. There is a potential for the creation of fugitive dust when the GBFS is dumped onto the stockpile from the trucks. The amount of any fugitive dust that may be generated depends upon the particle size of the material, the moisture content of the GBFS and the weather conditions.

3.3 GBFS Stockpiles

Windblown dust can be generated from stockpiled material and is dependent upon the particle size and moisture content of the material, as well as, the amount of time when the stockpile is being disturbed either during loading or unloading.

3.4 Feed Hopper/Conveyor/Transfer System

Dust can be generated when the front end loader is used to load GBFS into the hopper which feeds the grinding/drying system. The conveyor and bucket elevator used to feed the material to the grinder/dryer will be enclosed and will not generate any fugitive dust.

3.5 Weather Conditions

Variables that influence dust emissions from the roads and trucks include, but may not be limited to, weather conditions. Dry, windy conditions could increase the potential for dust emissions from every possible source.

3.6 Moisture Content of the GBFS and Particle Size

The moisture content of the GBFS is a significant factor that could affect fugitive dust emissions at the facility. The lower the moisture content of the GBFS, the more likely it will be dispersed by wind if spilled or exposed to the elements. To minimize the potential for fugitive dust emissions, GBFS will be received at the facility with a moisture content of 8% to 10%. GBFS will be off-loaded from the trucks onto stockpiles which will be used to feed the grinding process. With the moisture content being 8% to 10% and the particle size of the GBFS being greater than 200 microns, there is a limited potential for the creation of fugitive dust during the handling and stockpiling.

4.0 FUGITIVE DUST CONTROL MEASURES

The GBFS Grinding Facility will employ various fugitive dust control measures to control the generation and dispersion of fugitive dust from the facility. The GBFS Grinding Facility personnel will monitor weather conditions which may affect the potential for fugitive dust emissions. The potential for fugitive dust emissions can vary based on humidity, air and ground temperatures, and wind direction and speed.

The following practices will be employed by the GBFS Grinding Facility to minimize dust emissions:

4.1 Unloading of Transport Trucks

Fugitive dust emissions will be controlled during the unloading and stockpiling of GBFS. The material will have a moisture content of approximately 8-10% which will greatly reduce the potential for fugitive dust emissions. If necessary, additional water will be added to the material to maintain to reduce the potential for fugitive emissions.

4.2 Feed Hopper and Conveying System

The feed hopper and the conveying systems can be a source of fugitive emissions if the materials on the conveyors are exposed to the weather. To mitigate any fugitive dust, the moisture content of the GBFS will be 8 to 10%. In addition, the drop height when GBFS is deposited into the feed hopper will be kept to a minimum.

4.3 Roadway Emissions

The following measures will be employed at the GBFS Grinding Facility to control the fugitive dust from facility roadways:

- The beds of all trucks entering and exiting the facility will be tarped to reduce the dispersion of fugitive dust from the loaded trucks and to limit the potential for unintended spillage of material on facility roads.
- Truck traffic will be limited to paved road surfaces. A typical traffic pattern is illustrated in Figure 2.
- The facility roadways will be cleaned on an as needed basis, using a water truck and/or street sweeper to control the generation of fugitive dust and/or to collect accumulated dust and material to further prevent dust emissions. These devices will not be operated when weather conditions (e.g., rain/snow) prohibit the safe and efficient use of these control measures.
- Facility-wide vehicle speed limits will be enforced to reduce associated dust emissions.

4.4 Preventative Maintenance Program

All equipment will be regularly inspected and maintained to ensure proper system performance.

4.5 Good Housekeeping Practices

Good housekeeping practices will be followed as a preventive measure to minimize the potential for the creation of fugitive dust. Good housekeeping is essentially the maintenance of a clean, orderly work environment in order to reduce the possibility of accidents and dust emissions.

Elements of good housekeeping practices include:

- Maintaining neat and orderly work areas, both indoors and outdoors;
- Maintaining neat and orderly storage of materials, chemicals, containers and drums;

- Routine and regular cleanup of any spilled GBFS;
- Use of the street sweeper and/or water truck on an as needed basis to collect dust that accumulates on paved roads; and
- Providing training to employees about good housekeeping practices.

4.6 Employee Training

Employee training will be provided to all GBFS Grinding Facility operations personnel. Training will consist of a review of facility procedures and operations, including review of this Plan, instruction on the proper use of fugitive dust control measures at the site, and a review of the relevant procedures following adoption of any new control measures, when needed. Training will be conducted on an annual basis and as needed when facility procedures and operations are changed.

The objective of the training is to ensure that the facility is under constant observation by knowledgeable personnel. Employees will be trained to inspect and identify fugitive dust emissions from potential sources and be able to implement correct procedures to mitigate fugitive dust emissions when necessary.

4.7 Routine Inspection Programs

Inspections will be conducted to identify fugitive emissions and potential dust generating situations as part of the facility's regular inspection program on operating days. Results of the inspections will be documented on a daily recordkeeping report form.

5.0 RECORDKEEPING

A copy of this Fugitive Dust Control Plan will be maintained at the facility at all times. Completed Operating Logs will be maintained at the facility for a minimum of five years and will be made available to DNREC personnel upon request.

6.0 PLAN REVIEW

The Plan will be periodically reviewed and updated as needed. Updates will occur at a minimum, when dust emissions or sources change or when fugitive dust control measures, or operating procedures are modified or revised.

7.0 FACILITY CONTACT INFORMATION

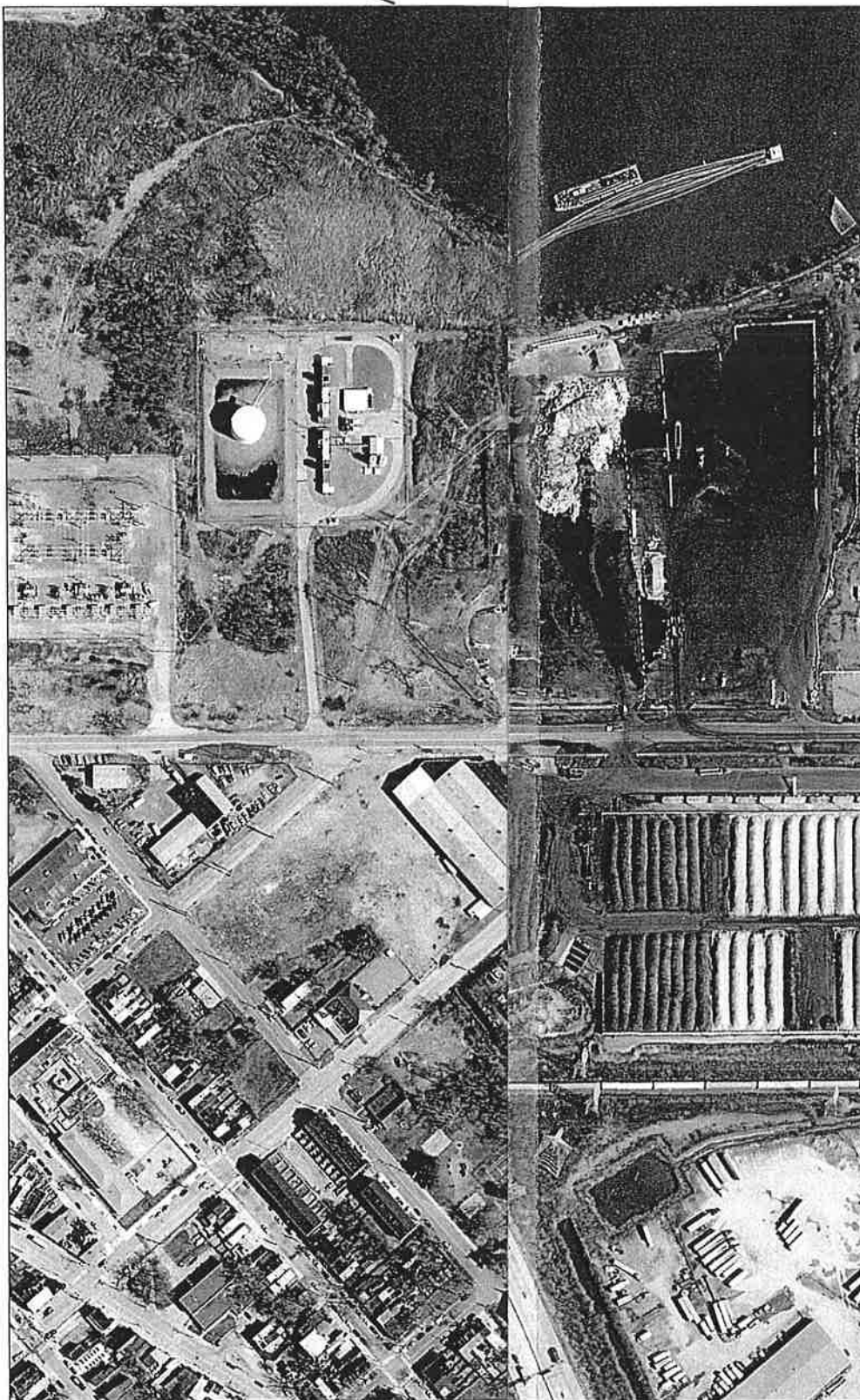
The individuals that can be contacted in the event fugitive dust issues are identified at the facility are listed in Table 1.

Table 1
Facility Contact Information

Primary Contact Information	Secondary Contact Information
Name: Miland Lele Phone: (724) 545-2300	Name: Lisa Dharwadkar Phone: (724) 545-2300

FIGURE 1

Site Location Map



NORTH

PHOTOGRAPHY PUBLICLY AVAILABLE FROM
ANALYSIS CENTER.



Soil, Water & the Environment

5400 LIMESTONE ROAD
WILMINGTON, DE 19808-1232
TEL: 302.239.8433
FAX: 302.239.8485

OFFICES IN DELAWARE, MARYLAND
PENNSYLVANIA AND NEW JERSEY

E-MAIL: DUFFIELD@DUFFNET.COM

DESIGNED BY: BJD

DRAWN BY: BJD

CHECKED BY:

FILE: B-8850MC-01

CONCEPT PLANNING
PROJECT LOCATION SKETCH
PENN MAG, INC.
NEW FACILITY AT PORT CONTRATORS
WILMINGTON ~NEW CASTLE COUNTY ~DELAWARE

DATE:
9 NOVEMBER 2017

SCALE:
1"=300'

PROJECT NO.
8850.MC

SHEET:
FIGURE 1

FIGURE 2

Site Plan

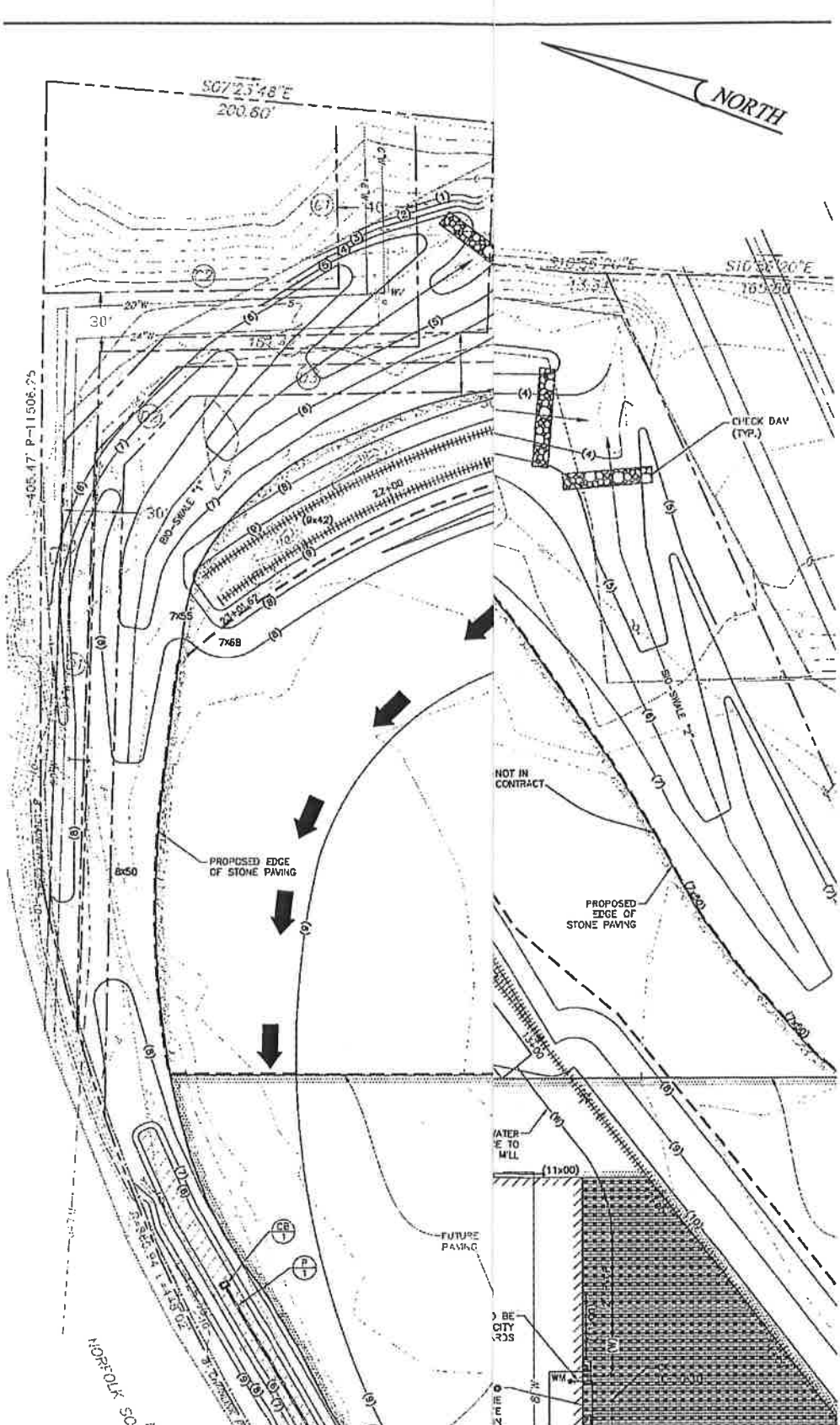
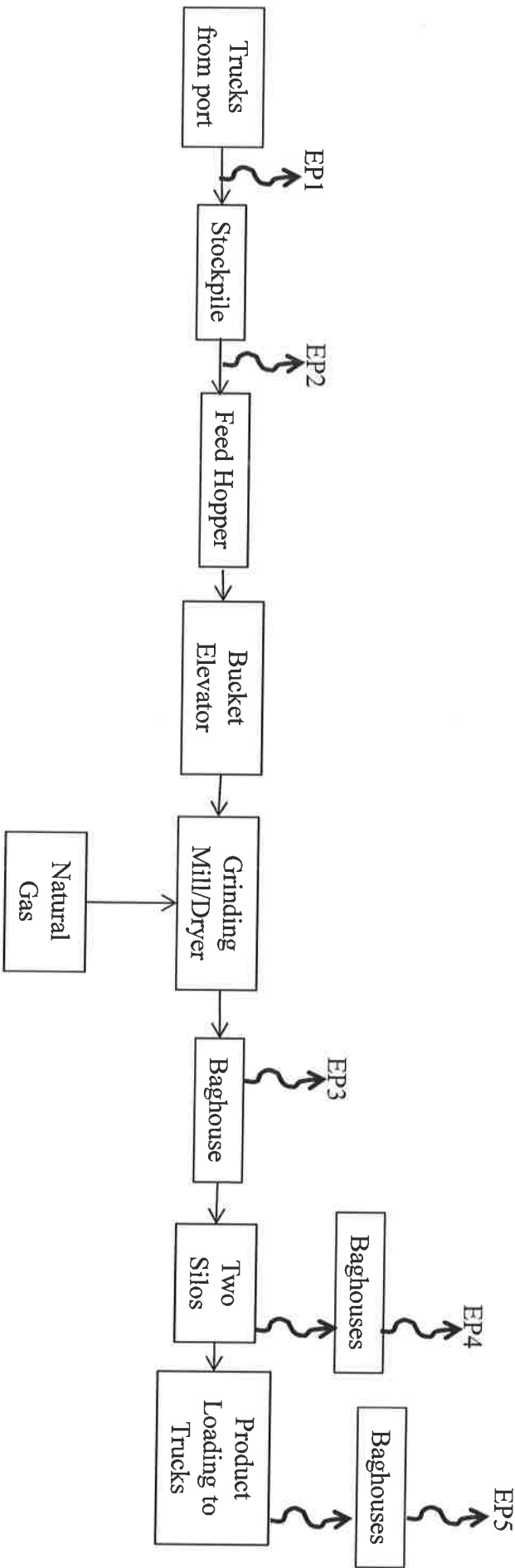


FIGURE 3

Process Flow Diagram

WALAN, LLC – Specialty Construction Materials Process Flow Diagram – Granulated Blast Furnace Slag (GBFS) Grinding Facility



Penn Mag, Inc. 501 Christiana Avenue Wilmington, DE 19801 Drawing: Process Flow Diagram	COMPLIANCE PLUS SERVICES, INC. 455 BUSINESS CENTER DRIVE SUITE 250 HORSHAM, PA 19044 PHONE (215) 734-1414 * FAX (215) 734-1424 www.CPS-2Comply.com	 COMPLIANCE PLUS SERVICES, INC.	Project No	0380.01
			Scale	NA
		Approved By	C. Holderfer	
		Drawn By	B. Mayer	

